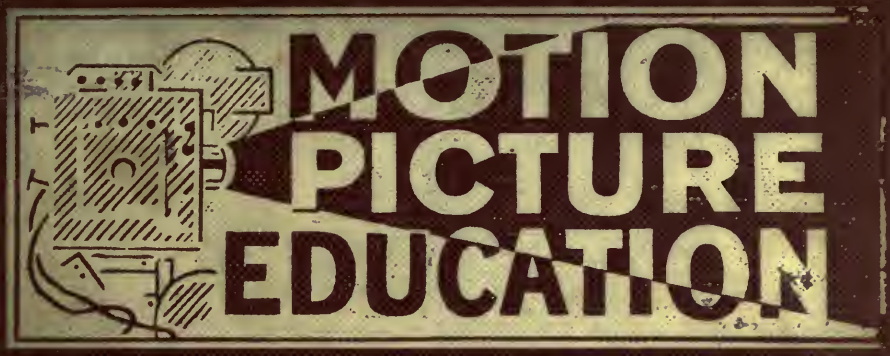

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Motion Picture Education

By

ERNEST A. DENCH

Author of "Making the Movies," "Playwriting for the Cinema," "Advertising by Motion Pictures"

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I

DO MOTION PICTURES INTERFERE WITH THE EDUCATION OF THE CHILD?

OUT of school hours the average child is never happy unless attending the movies. To take a typical town, Duluth, Minnesota, for instance, City Supt. R. E. Denfield has compiled the following statistics: 2,621 children attend the movies once weekly; 1,065 twice weekly; 188 thrice weekly; 61 four times weekly; 16 five times weekly; 2 six times weekly; 15 seven times weekly; 1,044 occasionally; 248 once monthly.

How do these motion-picture visits affect the child? We hear reports that, after an evening spent in a photoplay theater, the child is not in a fit mental condition to absorb his school lessons on the next day. Is this true? Whether the effect produced is harmful or not depends almost entirely upon the conditions under which the pictures are seen and the type of picture shown.

Many exhibitors, I regret to say, pay but scant attention to the health of their patrons. The figures obtained by Dr. Haven Emerson, Health Commissioner for New York City, tell their story only too eloquently. No fewer than one thousand motion-picture theaters in New York City and Brooklyn were visited, and of these but eighty-seven were properly ventilated. The worst examples were the converted store shows, but many other houses were equipped with electric fans, which, for economical reasons, were not used, consequently this air circulation outlet was closed. In other theaters inadequate heating facilities evidently were responsible for all fresh-air outlets and inlets being closed up. To quote from the report: "Perfumed disinfectants are being sprayed in some of the theaters with a cattle-sprayer. The spraying process does nothing to eliminate germs coming from the mouths of patrons, which cause epidemics during the winter. Our experiments with culture-plates revealed the fact that the quantity of germs immediately decreased when the fans were operated."

The stuffy atmosphere which is the inevitable outcome of poor ventilation causes

the average patron to leave the theater with a tired feeling. This is not natural tiredness—it is the kind which makes a child wake heavy in the morning, instead of with a clear head. The reason is therefore not hard to seek why a pupil pays but scant attention to his or her lessons.

Some assert that motion pictures are hard on the eyes, while others aver that they actually prove a beneficial exercise. Which version, then, is correct? The eye problem is mainly determined by the projection. If it is poor, only harm can result. I know of one girl who had an attack of nervousness. The optometrist, however, ascertained that the theater she was in the habit of attending showed flickering films, which had done considerable damage to the retina of each eye. He advised her to discontinue her visits, as otherwise she would probably have paralysis of the optic nerve. The main cause of flicker is old films. Films rapidly deteriorate, and when they reach the "rainy" stage they are a menace to the eyesight. The fault, however, does not always arise from this, for the operator may be careless or incompetent.

Another serious defect is "speeding."

A reel ordinarily takes from sixteen to eighteen minutes to run off the screen, but the operator sometimes shoots the reels through at almost double the normal speed. Speaking of this evil, a prominent Chicago oculist says: "Severe test is put upon the eyes by the unnatural swiftness with which films are sometimes reeled off, making every action abnormally rapid and jerky, converting the actor's walk into a Chinese trot and giving all the participants a sort of St. Vitus dance. The practice of flashing written letters and printed matter on and off the screen with almost lightning celerity puts the greatest strain upon the eyes. The audience, in its eagerness to get an intelligent understanding of the action, makes a strong effort to read the lines, but in many instances it is given no opportunity to read all of them, and is kept on a strain in the strenuous effort to grasp them at a fleeting glance."

When motion pictures are exhibited under ideal conditions, the only evil to be feared is watching the screen for too long a period. Mrs. Ella Flagg Young, superintendent of the Chicago schools, some time ago suggested that a five-minute intermission

between the reels be made compulsory. First: Films are of standard lengths and there are many objections to a stop in the middle of a reel. Second: Specialists disagree with Mrs. Young's views.

The average photoplay program occupies about two hours, which has been declared the ideal period in which to view films at one sitting. The eyes are actually rested, but after this period weariness slowly but surely comes on. Even hardened newspaper critics testify that such is the case. As most theaters are run on the continuous principle, a child is liable to stay and see the performance more than once, for it is a childish trait to watch a thing as long as possible.

There are many ways by which the character of the films seen by pupils may be determined. In South Bend, Indiana, 748 schoolchildren were recently asked as to the kind of pictures they preferred. Forty-one per cent. declared in favor of educational; thirty per cent., dramatic; twenty-seven per cent., comedy, and two per cent., crime.

But a Vine Street (Cincinnati) school goes one further. At the morning session each child is asked whether he or she was

present at a motion-picture theater on the preceding evening. The names of these pupils are recorded and particulars taken of the amount of work performed.

A Cleveland teacher finds room on her schedule for holding an oral expression and story-telling period once weekly. In connection with this she encourages her pupils to relate the stories of the photoplays they have seen. It has proved most popular with the children because it is a subject dear to their hearts.

The right kind of films actually assists the education of a child. A sixth-grade pupil who saw a film of the Panama Canal found this engineering wonder so fascinating that he borrowed books on the subject from the public library. Another boy stated that he liked natural-history pictures because he was able to see how animals and birds live. A drama appealed to a little girl owing to the kindness and thoughtfulness displayed by the small boy.

Bad films do an untold amount of harm. In this category I would include sensational dramas and vulgar comedies, which leave such an impression upon a child's mind that he lies awake all night thinking about them

and consequently is unable to concentrate at school on the following day.

Not all theaters show such undesirable pictures, so the child should be taught to discriminate between the good and the bad. The woman's clubs are accomplishing a lot of good throughout the country in obtaining suitable pictures for children, and in many cases have induced exhibitors to give special children's performances once weekly.

The Grass Valley (California) Board of Education, for instance, is working in co-operation with the local motion-picture showmen with the prime object of securing more and better pictures for children. This plan might be adopted with advantage by school authorities elsewhere.

II

STIMULATING IMAGINATION BY MOTION PICTURES

THE eye plays an important part in present-day education, but it has not yet been brought up to the efficiency point. Books and slides whet the imagination, but fail to completely satisfy the same. Not so with the motion picture, however. Why are youngsters of all ages so fond of going to the movies? It is because they are able to see things as they are.

The average city-dweller's child has a very vague idea of the beauties of the countryside, for some parents are not well off enough to send their offspring to the green meadows, hills and woods. These are practically like foreign lands to them, but present these things in motion pictures and they will grasp every little detail so readily that it proves as good as visiting the places presented. The city child would in no time be wise as his country cousin,

especially in regard to the haunts and habits of wild animals and birds.

A friend of mine, teaching in England, recently told me a story anent a pupil who had seen a film covering England's largest county. "I always thought that Yorkshire was a red piece of land," the boy remarked. "Why?" asked his teacher. "Because it is shown on the map in red."

Facts such as the above, when presented in motion pictures, would leave an indelible impression.

The motion picture affords an extensive insight in regard to the different races—what they are like, how they live, industries, etc.

The following is an extract from a letter I received from a girl of fourteen: "Motion pictures are better to the schoolchildren than geography books because it is easy for them to understand and they can see the places described. People do not have to travel to see beautiful places and scenes, but they can see them on the film."

The study of literature is made harder by some of the classics having to be read over more than once in order to sense the story. But let a grade first read the book

and then show them the photoplay version, which will only take about an hour to project on the screen, and they will know the characters completely and master the story without the least difficulty.

In regard to poetry, an author often digs deep and introduces phrases which are like Greek to the average scholar. But if a poem is presented in motion pictures, as a great many have been, each verse preceding the visualization will be shown on the screen, destroying all doubt on the subject.

Motion pictures sharpen the brain of a child, make it move quicker, and allow things to be grasped which were previously beyond its mental capacity. All this is done without "cramming."

III

WHAT THE FREE-LANCE HAS DONE FOR THE EDUCATIONAL FILM

WITHOUT the free-lance writer our magazines and periodicals would lose a great deal of their interest.

The photoplay producers, being business men, have followed the lines of least resistance. In saying this, however, I do not wish to reflect upon a body of upright men. They started out with the idea of entertaining the masses, so they naturally turned their attention to comedy and dramatic stories. With the passing of time, their product began to show signs of improvement, and a superior type of patron favored the movie theater, while the old stagers were gradually educated up to the point of appreciating more substantial fare than pure romance.

Europe was first to cater to this demand by producing short educationals. These covered natural history, native customs, popular science, industries and floriculture.

But experience has to be purchased first of all, so, instead of treating a subject in a highly entertaining manner, like the magazines and newspapers so ably do, the producer, in too many cases, failed to deviate from the text-book. His productions were right in line for educational purposes, but they were not palatable enough for general consumption. The consequence was that the educational got a bad name.

The American producers, in view of this experience, declined to break down the prejudice which arose to the surface.

Enter, then, the third party, the free-lance cinematographer. He was not hampered by having to adhere to a releasing schedule. He might have worshiped the guide-book when combining pleasure with business on a vacation, only he did not, to his advantage. To get out of the beaten track he knew that he would have to rely upon his own observation powers, so when he ran up against something out of the ordinary he capitalized it on the spot.

It would take a volume to record all the accomplishments of the numerous free-lance, motion-picture photographers. Unquestionably, the most amazing undertaking down to

date is that of the Williamson brothers. In 1914 they perfected their submarine-tube apparatus. All the underwater pictures up till then had been taken in tanks and aquariums, so they determined to obtain the last word in realism. They quietly set to work in the Bahamas, where the water is as clear as crystal and the undergrowth a thing of beauty, to reveal, for the first time, what it is like in King Neptune's domains.

Divers had been the only folks privileged to view this sight, but none the less a photoplay audience would soon tire of it. It was to offset this that such stunts as native hunting, and diving for coins, species of fish, sponge-fishing, and a fight between a man and shark, were added to introduce the desired variety.

To prove that there was no fake, the first reel of the picture was devoted to a demonstration of their apparatus.

Of big-game-hunting pictures in Africa there have been many, the best being obtained by Paul Rainey, Cherry Kearton and Lady Mackenzie.

The Arctic regions have also been well plucked. Edward Salisbury spent three

years in filming the wild life of our United States.

The motion pictures of the ill-fated Captain Scott South Pole expedition were of unusual interest, and introduced the motion picture in a new and useful capacity. H. C. Ponting, the camera-man, recorded all the activities of the expedition up to the time the Southern party made their fatal dash. Although none of the heroic party came back to tell the tale, there was one consolation: they were seen in harness until they left their comrades.

Coming right home, Professor Ditmars makes a hobby of taking natural-history pictures, his position of curator at the New York Zoological Gardens providing him with abundant facilities for this sort of thing. Fiddling with spiders and running the gamut to snakes is as tedious as it is dangerous.

It will be news to you to know that Ditmars is averse to having his machinery exploited, as it is of a special kind. His first effort was a series of pictures entitled "The Book of Nature." Now, however, he sells occasional "fillers" to the regular producers.

Dr. George A. Dorsey has completed a brilliant piece of work in his series covering China, Japan and India.

The efforts of these free-lances have abundantly disproved the presumption that the general public would not stand for more than five-minute doses of educationals. Most of these big productions, occupying the screen for two hours or more, have been star attractions at the leading theaters in New York, Chicago and London.

Why have they appealed? This lies principally in blending the human-interest material with the facts in an unusual subject.

Had these cinematographers been working on a salary basis for the regular film manufacturers, they would, in all probability, have been deprived of the credit.

Even to-day the average regular-producer has not a true conception of the right qualities for an educational picture. He attempts to bolster it up with an apology for a story.

I must not, however, permit my sense of fairness to run astray, so will state that he excels in producing one type of educational —the historical. His long experience in

putting on comedies and dramas qualifies him to reconstruct the past.

To get down to the point, is there any chance for the free-lance cinematographer to make good in this special field? There is—if you have new, practical ideas. What is wanted to-day are things which have never been filmed. Just because almost all the globe has been, seemingly, covered, is not to imply that little else remains. In this land of wonderful natural resources, for instance, there are historical places, scenic charms, industries and phases of natural history galore, which have never appeared in motion pictures. It is up to you to find them.

This will afford you a rough idea of the possibilities that do exist. Some of the regular producing concerns are open to purchase the negatives of good subjects at a fair price,

IV

BATTLES THAT ARE REFOUGHT FOR THE FILM

HOW dearly the average film producer loves reproducing battles! All the thrills he wants are readily made, and he can steer ahead to his heart's content. The mainstay of his work is action spelled in capital letters, and this is why war pictures appeal to him more than any other class of films.

When at school, many of us voted history a dry and uninteresting subject. It was one mass of facts, and the nearest we ever got to the visualizing stage was by a few sketches contained in books, and our lessons were accompanied by maps, which were quite as uninteresting.

The moving picture has changed all this, and battles that once were only familiar to us by dates and names, now convey a far greater meaning. We envy the children of to-day, who are able to derive their learning

in the easy and pleasant way the film affords.

Of course, none of us regards the picture theater as an advanced school. We go there to be entertained, but if we can learn in an indirect manner at the same time, so much the better.

But the director has spoiled himself too many times by mixing fiction with facts. The receipt does not blend at all well. When we see advertised "The Battle of Never Occurred," we certainly look forward to seeing the historian's record strictly adhered to. But in the majority of cases we find the director has gone beyond the history book by introducing an insipid love story to hold the interest. To be sure, we do not object to the gentle passion being depicted in its right place, but one can have too much of a good thing. He has, at different times, produced ambitious war spectacles, and these have been none the worse—quite the opposite, to be precise—for the love element not being added. When the latter is introduced, the educational value of the finished product is greatly depreciated.

Films that treat the history in our own country serve to further promote patriotism

in our breasts. The war now raging in all Europe can serve to substantiate my case. In Britain these historical pictures have acted as a stimulant to recruiting. Although I have no actual data to force my argument directly home, undoubtedly the pictures of our fight for independence, and other wars, have ably demonstrated to us the price we had to pay for liberty. To reconstruct a battle is more than child's play. Indeed, it is a proposition full of pitfalls. That only stands to reason, for it is a page of life from the past, and the director, to introduce the convincing note throughout, must furthermore reproduce it true to life.

As I have before maintained, he should not wander outside the history of his native country in seeking subjects for war spectacles. He has got his work cut out to produce a historical picture of his own country, without rambling abroad.

Probably the most interesting thing of all is obtaining the correct types. It is not any earthly use producing a film featuring, say, George Washington, if the actor assigned to the part looks it about as much as the man in the moon. The player must bear a striking likeness, whatever noted per-

sonage he may have to portray. In most cases the players are picked mainly for their resemblance.

Some time back an English company wanted to take a battle of the Nile film, but, owing to their inability to find an actor who would pass muster as Lord Nelson, they did not proceed further.

To give the idea that there are two huge armies engaged when it is not practical to employ more than a few hundred extras, requires considerable ingenuity on the part of the director. Their movements, when the uniforms of both armies are much alike, should not cause one to lose sight of which is which. A very excellent film I remember was marred because of this fault.

It is a good idea of the film producers to borrow portions of Uncle Sam's army and navy, and I would like to see both even more extensively used, providing, of course, the necessary official consent is forthcoming. There is no other country in the world that treats film producers so liberally as does our obliging Government. Before now I have come across good pictures that have been spoiled by the unmilitary-like appearance of the extras who filled in the battle

scenes. It strikes me that a retired officer could do much to drill them into proper shape when the director is at a loss to find the right type of men. Those so trained could be regarded as specialists and thus be always available.

I have seen soldiers, depicting Revolutionary times, marching along roads lined with telegraph-poles. Incorrect uniforms and sundry other errors have likewise met my gaze from time to time. All these things tend to detract from the historical value of such films. It is clearly apparent that a military expert to supervise war films would be a worth-while move on the part of any manufacturing concern.

In its own particular class the "Buffalo Bill" picture of the Indian wars was a masterpiece, for it was stipulated by the Government that if taken at all it was to be historically correct. This was practically assured, and afterward achieved, when those who played the important part in the original battles likewise figured prominently in the moving-picture version.

V

ARITHMETIC, SPELLING AND HANDWRITING BY MOTION PICTURES

MANY have asserted that such subjects as arithmetic, spelling and handwriting can not be taught by motion pictures. I beg to differ.

In regard to arithmetic: On the magic white screen could appear a blank blackboard, on which jump a bunch of jumbled figures. These would form themselves up into sums, and the numbers could be added, subtracted, multiplied or divided, as the case might be.

Trick cinematography allows these stunts to be presented without the human agent being revealed. The only thing that might be said of this plan is that the "magic-wand" element might lead a child's inquisitive mind to wander, so, instead of paying strict attention to the problem presented, he would wonder how the figures were made to move.

I know of a producer who has gone one

better. The motion picture appeals to the eye, and for this reason I am a strong believer in presenting the facts by pictures. Well, to begin at the beginning, this producer engaged a troupe of child players, who dressed and acted as teddy-bears. Their actions, assisted by oranges, enabled many arithmetical problems to be solved in a simple and pleasing manner.

Another motion-picture photographer proposes to show the figure 1 to be followed by another figure 1, who fights his brother to the death, the result dissolving into the figure 2. This performance may be continued up to any desired number.

All the foregoing suggestions are, of course, only suitable for kindergarten classes, but there is no knowing the future developments in motion-picture arithmetic.

Spelling lends itself particularly well to visualized treatment. Suppose a troupe of acrobats were introduced in a scene and each member twisted his body in such a way as to form a certain letter of the alphabet. If these performers lined up in a row, they could spell words. This is no theory; the idea has already been carried out by one film manufacturer.

Pupils, by this exceptionally interesting and effective way, would watch every movement of the actors and in this way readily grasp the lesson taught.

Another way would be to show the common version of a misspelled word, which immediately fades into the correct spelling.

If one visits the motion-picture theater, one must have observed how easily handwriting may be taught by the films. Sometimes a close-up view of an actor reveals him actually writing a letter. Take the Kalem trade-mark as another instance. Right across the film each letter is formed with a large, bold, invisible hand. There are also similar trademarks worth watching.

Mr. Palmer, the author of the "Palmer Methods," intends to adapt his system to motion pictures, and he has already had a film, three hundred feet in length, produced. In this picture he writes "West Des Moines High School" correctly on the blackboard. The points accentuated are these: The right writing posture both teacher and pupil should assume; the difference between writing comfortably on blackboard, wall and desk. Incidentally, the minor details, such

as holding the pen, pencil or chalk, are not neglected.

The advantage of the motion-picture method is that the teacher's hand, which has been filmed close to the camera, is seen with equal clearness by every scholar.

VI

PENMANSHIP IN MOTION PICTURES

THE minor, but important, details are often disregarded in penmanship. A player, for instance, sits down to write a letter. His pen glides over the paper at a sixty-miles-a-minute pace, and before you can realize it, he has completed a letter of moderate length, in neat handwriting. That, at least, is what is shown on the screen after he is through.

No one wishes to be bored to death while a character is writing a letter, but there is a way of getting it over in a plausible manner.

In a recent photoplay an old man sat down to write a letter. He started making each word in laborious fashion, and every few moments the picture would switch to another portion of the action and revert again, until the epistle was completed. Then, when the note appeared on the screen, the spectators really believed he actually

penned the note, so why can not the stunt be done in a lifelike manner on every occasion?

Errors are also contained in the letters relatives write to each other, some being as brief as business communications. In real life folks write fairly long letters, in which they tell all sorts of family news. Each word consumes a foot of film, and it would therefore be out of the question to devote so much space to superfluous matter. A more effective method is to quote a paragraph that directly concerns the play.

Then, there is the relationship in characters. A son writing home to his mother would hardly sign himself "Richard Dare," yet this is more often seen than "Your affectionate son, Dick."

We certainly admire the dainty hands of the heroine, but our indignation is great when a large, grubby hand holds the letter on the film. These "inserts," as they are technically termed, are taken after the action has been completed, and generally some studio hand is assigned the task.

There is also the note which is written under great difficulties. A picture which I viewed on one occasion showed the hero

leaning against the bureau with his back turned. He kept two desperadoes at bay with one arm, and he put the other behind his back so as to scrawl the message on the bureau without them seeing his actions. He threw the note out of the window, and when it cut in on the film the writing was as good as if done under normal conditions.

But this was nothing compared with another photoplay in which the heroine wrote a letter with a pointless pencil.

The motion picture aims to be true to life, and the prevalence of these careless mistakes only serves to belie its claims.

VII

PRINTED MATTER IN MOTION PICTURES

EVEN the motion-picture makers can not get along without the assistance of the printing art. Theirs is supposed to be a craft by which everything is visualized in pictures, but the fact remains that the photoplay producer is as helpless as a sinking ship in a storm, without explanatory matter.

Take, for instance, the average motion picture. First the title and the maker's name are thrown on the screen, then the cast of characters, and, after about two introductory scenes, it is necessary to show a subtitle, or leader, as it is sometimes called, to throw light on what the characters are doing, their relations to each other, etc. This process continues at frequent intervals until the finis.

The motion-picture players are very clever in conveying the meaning of many things with the aid of gestures and facial

expressions, but these mediums have their limitations.

We are not yet sufficiently versed in lip-reading to understand that the father is on the verge of ruin, by the lip movements of the players. Or that a lapse of ten years takes place. At stages like these, subtitles render invaluable assistance.

There has been a hue and cry over this use of explanatory matter, we asserting that we go to see pictures instead of to pore over the efforts of printers' ink. So producers thought that they could easily bridge the gulf by having Father Time come out in a scene and chip off ten years. One other producer had the dialogue fade in the middle of the scene, when a character spoke. But all have been in the nature of experiments, and have never achieved any vogue, so once again the subtitle reigns supreme.

Each word employed in a subtitle or other explanatory matter uses up a foot of film, consequently scenario authors have to explain things in as few words as possible, though they sometimes sacrifice clearness for brevity. These announcements are first printed in the ordinary way, after which

they are mounted on cards and cinematographed.

Often explanatory matter is adopted to explain the obvious. The adage about "any old port in a storm" holds good in this instance, for the lazy photoplaywright finds it the easiest way by which to put over his play. One photoplay, in which a young couple were married, introduced a subtitle to explain this incident. But when I came across the same situation in another, the newlyweds were shown leaving the house of the minister, and in the next scene was a close-up of the bride's hand, displaying the wedding-ring, which her mother was looking at.

Sometimes directors are not overparticular in regard to such things as spelling, punctuation and grammar.

It often proves annoying to see the newspaper items. A player has only to pick up a newspaper for a moment, when he sees an important-to-him paragraph. Imagine any newspaper putting it on the front page.

Then, there is the newspaper write-up, the headlines of which provide the desired information. But the first few lines of the

text are allowed to remain, for atmosphere, presumably. These, in too many instances, have no possible connection with the headlines. What the director does is to cut out the headline and then fill in the one of the author's concoction.

Many of the faults of the misuses of film-printed matter may be traced to the film editor. When the negative is completed and developed, all pieces are assembled and run off in a disjointed condition. Many stops are made to cut scenes and place them in their proper places, subtitles and other printed matter being added where needed.

Sometimes he finds that the picture exceeds the standard length, so he cuts down the space allotted to the subtitles, and then we are annoyed that they do not remain on the screen long enough for us to grasp their meaning.

He is also responsible for the dialogue subtitles appearing at the beginning of a scene, instead of about the middle, thus robbing a photoplay of its suspense, and the player speaking at the right time.

A perfect photoplay has been defined as one possessing no explanatory matter

whatever. But it is absurd to expect this while the motion picture proceeds along its present lines.

I have yet to see a photoplay get across successfully without printed matter, and, in my opinion, the aim of directors and photoplay authors should be to eliminate the prevailing defects,

VIII

THE MOTION-PICTURE NEWSPAPER AS AN EDUCATOR

WHILE there are thousands of newspapers published, from Maine to California, there are but several animated newspapers. They possess a great advantage over their press contemporaries in that they are not localized—they cover the important news events of the world. Condensation, therefore, is brought down to a fine art, for all this huge stretch of territory is covered each week in two thousand feet of film, taking about half an hour to run off the screen.

Like regular newspapers, the newsies of the movies have representatives in a town of any importance, and, as they have some sort of an arrangement with their British contemporaries, they are able to cover other continents.

The work of the topical cinematographer is not easy. Indifferent weather may handi-

cap him; a permit may not be obtainable; there is competition to reckon with; he has to work in trying places and there are inquisitive crowds to be handled diplomatically. Under all these conditions he has to grind out the regulation sixteen pictures a second—the results will be farcical, otherwise. I well remember seeing an English royal procession film. The coaches and guards proceeded at a racing pace, instead of in the usual dignified way. The audience simply roared with laughter. The operator in this case must have lost his head and turned the crank slower, for this gives the reverse results when photographed.

When the negative is developed, it is edited by the picture editor, who cuts out the dead parts, prepares and inserts the descriptive titles and boils down each item to its relative importance.

The motion picture is far better for teaching children what is going on than the ordinary newspaper, which often abounds with crime stories and other stuff objectionable to children. To sift out the bad from the good involves much time and trouble, and even then the lesson is apt to prove dry

to the pupil, for much is left to the imagination.

But appeal to the eye with the help of a news motion picture, and a child will sit up and take notice. He will readily become familiar with prominent persons; see the havoc wrought by the European war; know the meaning of "preparedness," and so on. From their own lips children have told me that they have also learned how foundation-stones are laid, the launching of battleships and the damage done by accidents.

The animated newspapers are also doing good work in the history field, for all events as they occur are preserved for the benefit of posterity, so that future generations will know what we were like.

Even to-day, when a prominent person dies, the animated newspapers unearth a film and include same in the regular edition. President Wilson, for instance, was pleased to be presented, after his wife's death, with a film taken at a garden party at which Mrs. Wilson was present.

Any film-exchange is at liberty to hire any topical desired, for a moderate fee, the amount of which decreases with the age of the film.

IX

THE SHORTCOMINGS OF PHOTOPLAY ADAPTED LITERATURE

LITERATURE and the photoplay are closely allied to each other, for by the former we read, while by the other the words are visualized into actions.

More than ever the printed page is being drawn into the ever-gobbling net of the film. Many of the great classics have been adapted, others are in preparation, and fiction authors are reaping harvests by selling the film production rights of their novels and short stories.

On the other hand, we hear complaints of the harm done as the result of the photoplay encroaching on the realm of fictiondom. It is certain that a thing can not do good to some without hitting others, yet the harm done, fortunately, is practically nil.

First we have the libraries, who assert that there has been a big decrease in the demand for modern fiction. It is certain

that we fans can not do two things at once, and we prefer to sit through the "nutshell screen novel," in preference to wading through a mass of words to get down to the story. No doubt authors, publishers and booksellers alike have felt the draught, but they alone are to blame, for it is only the minor novel that is being affected. It has taught them that the public has learned to appreciate quality instead of quantity. Yet in the case of the adapted classics it has brought them good business. When one of these had been shown in a town, there has been a great run on the works both at the libraries and book-shops, especially the latter. Many of us make our first acquaintance with the good things in literature at the picture theater. The publishers have responded to this demand by issuing cheap reprints, which have met with a big sale. The storehouses of literature have been ransacked so much that few famous literary lights of the past now remain untouched. Now for some criticism on the work of the producers. Best results are never obtained by adapting foreign literature. I have seen versions of Dickens' novels, by American producers, that have failed to impress

earnest students of his writings. The characters looked so truly American that they were mere caricatures of his creations. The same applies to the works of other scribes.

Another thing, the Old World atmosphere was lacking, except on those few occasions when a company has sent a troupe of players abroad for the purpose. This was overcome in many instances by faking exteriors in the studio, a practice that deserves to be heartily condemned, inasmuch as it detracts from the naturalness that is the motion picture's greatest asset.

I have seen, too, versions of French classics by English players whose portrayals lacked the elaborate pantomime that characterizes the warm-blooded French. I have therefore come to the conclusion that classics can only be done justice by being produced in the country of their origin, by native players. I also greatly deplore the tendency to modernize ancient novels by attiring the characters in present-day dress. It greatly annoys those spectators who are at all familiar with the literary work. Small but important errors of all kinds have been the rule rather than the exception.

If the screen is to retain its reputation

as an educator, there must be no repetition of these serious defects.

Few screen versions follow the original work minutely. The reason is not far to seek. In a lengthy novel there are no end of superfluous side-shoots that would hamper the straightforwardness which characterizes the photoplay. But producers should not overstep their bounds by altering the main plot to suit their liking.

In modern fiction the plot is secondary, but the screen portrayals provide something that the average film plot lacks. That is characterization, which, so far, is essentially the gift of the fictionist, and when the picture is capably produced it gives us great enjoyment to take an interest in real-life characters instead of mere puppets, depending for success on the personalities of the leading players.

Many prefer first "seeing" the book before reading it. On the printed page the story starts in about the middle, and until the end is reached it keeps switching backward and forward. How much better, then, to have the story presented right from start to finish, as on the film. Besides, it is more easily followed, and the story that

would take days to digest can be unfolded on the screen in an hour or so.

This speeding-up process has prompted magazine editors to demand clean-cut stories that are devoid of padding.

The film is also excellent as a biographer, though our producers have hardly utilized its great possibilities. In Europe much more has been done, and on a far greater scale, and pictures of Lincoln, Queen Victoria of Britain, Wagner, Anne Boleyn and Shakespeare call for especial mention.

The success of such films depends much on obtaining a real prototype of the personages introduced. This often proves a hard task and much make-up is out of the question. In the case of Barker's "Sixty Years a Queen," the producers were at a loss to find a player to represent King Edward, and eventually had to resort to advertising in the London dailies, offering $250 for the services of such a man.

Yes, it is certain that the photoplay is doing a great service to literature, despite the bad points.

X

SHOWING MOTION PICTURES IN OPEN-AIR SCHOOLS

WHAT are the advantages of showing educational motion pictures in open-air schools? The motion picture is primarily an indoor form of entertainment, yet it need not be debarred from the open-air school.

To install motion pictures in an indoor school, it is essential to set apart a room with plenty of exits, and other safety-first precautions, if the regulations regarding same are to be complied with.

With open-air exhibitions there are no such regulations, consequently the preliminary expenses are less and no special space is necessary.

Indoor shows are given in more or less darkness, which is a disadvantage, since it places temptations in the way of pupils, and it is best to be on guard against lack of attention.

The outdoor show has one disadvantage —that of light. Most of the screens on the market are only suitable for presenting pictures in semi-darkness, so it behooves educators to purchase the special type of daylight screen. I would point out, however, that more electricity is consumed in order to project a clear picture.

XI

THE LIMITATIONS OF MOTION PICTURE EDUCATION

VERSATILE as the motion picture is, it is powerless to perform the impossible. There is no such thing in this wide world elastic enough to be employed for every conceivable thing and occasion, so when we come down to the problem of applying the motion picture to education, we also find obstacles in our path.

That is precisely why it can not oust the teaching methods at present in vogue—it can never be more powerful than a competent assistant.

The best and most practical plan is for the teacher to give the lesson first in the ordinary way, then to arrange for the exhibition of the film or films covering the subject under notice. The picture should not be shown as at the photoplay theater, but the teacher, instead, should lecture on it and draw the attention of the pupils to the

most vital points. In a film scene these are quite apt to be overlooked among the multitude of details. A lantern would also further facilitate matters in enabling explanatory slides to be projected while the film is stopped at the necessary places, for film views can not be shown in a stationary position. The one disadvantage of the motion picture is that you can not elaborate on any point, for it changes over to another too quickly.

There is danger, in the speeding-up methods governing the presentation of different subjects in film form, of trying to cram too much into a child's brain at one time. Some pupils possess greater intelligence than others, so I recommend not showing another picture until the preceding one has been mastered. At this stage the lights could be switched on and the pupils questioned, or assigned a composition.

There might also arise a tendency on the part of pupils to grow lazy, when they have knowledge imparted in such a simple and pleasant way. This can be promptly dealt with, should the situation be noticeable, by threats to cut off the motion-picture lessons. No pupil would want that to be

done, so it should create much more enthusiasm among the pupils in their other lessons. English was generally thought to be one of the out-of-bounds subjects, but I want to set on record here that the motion picture is really of great help in this direction. The letter I recently received from a girl of fourteen proves this. This is what she said: "At the grammar school which I am attending, I had a course to write a composition from my schoolteacher about the red Indians. I had not heard very much about them, so it was not an easy task. One Saturday afternoon I went to a motion-picture show and saw a picture of some Indians. They were having war with some settlers that had settled in some part of the country. I saw how they fought, how they decorated themselves, how they earned their living and how they lived. It was a strange sight to see these redskins, but I soon came to know what kind of people they were, and I finished my composition in good shape. This is the reason why I could write my composition."

But while the cinematograph is not so superior as is the text-book in getting over facts, it can impart a deeper meaning and

relieve them of any dryness. Take, for instance, the Declaration of Independence. The events that led up to it could be shown, and appropriately closed with the historical incident itself.

In regard to history and geography, it is a great pity that the photographic difficulties debar the filming of the interiors of historic buildings and such things as caves, for frequently the most interesting things are to be found under cover. In these details the teacher must fall back on lectures and text-books.

XII

ARE SPEED-UP MOTION PICTURES OF EDUCATIONAL VALUE?

TEACHERS, as a rule, are much opposed to anything that savors of attempting to teach a pupil too much in a limited time. Long experience has taught them the receptive capacity of a child's brain. The invariable result of resorting to the cramming process is that it so confuses a child that he or she can remember little more than when it started. Happily, however, the motion picture has nothing in common with other hustling systems—it stands on a plane by itself.

In the first place, let it be understood that the motion picture makes its appeal through the eye, which imposes no severe demands on the imagination of a child, for everything is presented with such reality and simplicity that no pupil of ordinary intelligence can fail to grasp what it sees with its own eyes.

Several demonstrative lessons may be covered at once, but each simmers in before another comes on the screen, so, at the end of the projection of several films, a child retains a clear impression of them all.

I have heard teachers aver that such a subject as the stages depicting the birth of a plant until the flower blooms should not be shown in such a short period. In a few minutes a picture covers the growth of several months. This, they assert, when shown on the screen, gives a child a false conception of nature's work. Certainly the argument is a good one, but, looking at it from a broader standpoint, unless the growths were accelerated in this way they could not be shown at all. Neither is it a fake on the part of the film producer. The subject is covered in a perfectly natural way by taking a few feet of film at regular intervals. No child will look upon such films as the work of a fairy waving her magic wand, for explanatory titles invariably precede each incident, telling that a specified time elapses between certain growths.

Then, we have the scientific film. One of this type which I had the pleasure of recently seeing showed blood corpuscles as

large as dinner-plates. These were at war with dozens of large microbes, which hit back at each other. These things were magnified no less than ten thousand times. Here is another example of what could not be done unless the insects were brought under the microscope and cinematographed.

Faulty operating can do much to mar a picture, for, should the operator project the films more than sixteen pictures to the second, subtitles will not remain on the screen long enough to be properly comprehended. On the other hand, instead of seeing people and things moving naturally, they do so at a ridiculous pace. Correct projection, therefore, is essential for the educational presentation of motion pictures.

XIII

CONDUCTING SCHOOL MOTION-PICTURE CIRCUITS

IN the motion-picture industry new producers spring up like mushrooms, and the ones that survive are those backed up by a scientific distributing plan. Exactly the same problem confronts educational bodies in adopting motion-picture education; they must worship system.

A circuit of schools is highly desirable, because it is more practical to purchase the films outright from a regular exchange than to hire same on every occasion. It is also more reliable, for exchanges are prone to substitute one film for another.

"We need municipal circulating libraries of motion pictures," said John Collier, secretary of the National Board of Censorship. "The city should own the films and rent them out to public schools, libraries, settlements and recreating centers.

"When any school tries to get certain

pictures they find them 'on the road,' probably in some distant part of the country, in such a circulation that it is impossible ever again to get any particular picture, after it has once started on its circuit."

Obviously, therefore, establishing a school film exchange is the best solution of the problem, and in this connection the University of Wisconsin is the pioneer. The Department of Visual Education set itself up in business by purchasing 130 reels of films and eighteen thousand lantern-slides. Each of the 285 schools receives a set of eighty-five slides, and the seventy-eight schools possessing motion-picture projectors receive a reel of film in addition.

The slides and films are changed weekly, so there is comfortable time to prepare children for same. When through with them, the school sends the parcel on to its neighbor, the only cost being about thirty cents for express. The State is arranged in territories, so as to facilitate distribution of the films.

How such a system may be inaugurated is best gleaned from the plan followed by the California State Board of Education. The State Board collected all the suitable

films from available sources and catalogued same in order that the schools could select any particular subject they desired. This service was also extended to apparatus.

The experiments carried out by the London County Council are not without their practical value:

"An educational series of films should be exhibited in the halls of six polytechnics. Each series would last forty-five to fifty minutes, and would be given four times during the day—twice in the morning and twice in the afternoon—between the hours of ten and twelve, and two and four, respectively. By limiting each performance to about fifty minutes, the children could be changed without difficulty. It would be possible for about one thousand children to be present at each performance. The apparatus would be kept in each polytechnic for the first five days of the week, and be moved on to the next polytechnic on the Saturday, ready for use on the following Monday. We are considering the advisability of arranging for a large number of children to see the films on one occasion only, or for a smaller number of children to see them on more than one occasion.

"A large number of films will be submitted for selection, and the same program will be used throughout the entire period. We have made arrangements for the list of films to be submitted to us for approval before the experiment is begun. Instruction will be given by teachers in the schools on the subject of the various items, both before and after the performance. A lecturer at the exhibition will not be necessary, as, with the instructions given by the teachers and the explanatory notes accompanying the films, the children will be able to follow without difficulty."

But the difficulties increase when a school decides to give motion-picture shows on its own account. This fact debarred the Board of Education of Pittsburgh, Pa., from carrying out its film plans, as the city fire and insurance regulations were too expensive to be complied with.

No other course is open than to set apart a special room for motion-picture lessons on the ground floor, which should be equipped with the regulation tip-up seats, screen, a fireproof operating-booth and plenty of exits.

The most costly item of equipment is

the projection machine, and $250 seems a lot of money to spend, since same will only be used about once weekly. The Iowa State College at Ames formed a circuit of schools, and, by defraying freight charges, any high school thus unequipped may hire a projection machine.

Last, but not least, is acquiring expert assistance, for motion-picture exhibiting is not without its technicalities. The teacher could not operate the machine because he would have his hands full in lecturing to the film and in looking after his pupils.

A regular operator could, of course, be hired, but as his services would only be needed on one day weekly, the expense would be out of all proportion to the service rendered. If, however, he could work a circuit of schools, his salary could be shared.

The Iowa State College, for instance, has on its staff a consulting engineer, who renders assistance to schools in need of motion-picture advice.

XIV

LIVING IN THE PAST BY THE MOVIES

HOWEVER good the printed page or still photograph may be in recalling the past, there is nothing to equal or excel the film. The dead come to life again, and pleasant evennts in one's lifetime can be recalled.

To begin with history first, the only way by which we can learn the history of our forefathers is through the historian's facile pen. Word-painting has its limitations, and that is why we miss the actual seeing of things.

But the camera can not lie. What better sight could one have than to be treated to seeing, in moving pictures, the fight for independence or the Civil War? I am not alluding to the historical pictures produced by the manufacturers to-day, for these are only based on history, but I refer to genuine films taken at the time these great events took place. Alas! the cinema-

tograph was not thought of then, so these things will never become a reality.

Then, again, what could be better than seeing our ancestors come to life again? How amusing it would be to see them in their quaint dresses, amid an archaic environment and the customs that prevailed at that time! We could then appreciate the wonderful progress we have made, while if there were films available, showing the history of the United States from Puritan days to the present time, we should feel immensely proud of ourselves for descending from such splendid stock.

This brings me down to the modern times. What about the events that occur day by day and are duly recorded by the cinematograph camera? Beyond their interesting us, nothing is apparently being done to preserve these films for the sake of posterity. Our Government has ordered films of the red Indians to be taken, but practically no move has been made in other equally important directions. A good law would be to compel film producers to forward a copy of every topic they make to Washington, so that a permanent record may be kept. Far from resenting such a

bill coming to pass, the producers would be only too willing to oblige.

It would be indeed selfish to think of the present, for when we have served our allotted span on the earth, our successors will be naturally curious to know how we lived and what transpired in our lifetime. A hundred years hence the world will have progressed as it has during the last century, so what better medium for recalling the past is there than the versatile cinematograph? Children will have no need to be taught history and progress by dull books—moving pictures will reveal everything in actual reality. Thus will the fullest development of the film as an educational medium be reached. The sooner that this important matter is given the attention it demands, the better.

The producers have been very good in their laudable attempts to reproduce history and costume plays on the screen, but, however excellent their efforts may be, they can not approach the real thing. But we can not overlook the marvelous character of the film actor's make-up. A lot depends on getting a double of a famous personage, as near as possible. Take, for instance, Benja-

min Chapin, who has gained a reputation for his splendid portrayals of Abraham Lincoln. The same may be said of William Humphreys as Napoleon.

For all this, one knows that he is only witnessing a rehash of the past, so they therefore fail to convince like the genuine historical film would. Even now, when a famous personage dies, his features have usually been caught by the moving-picture camera, and the animated newspapers revive the scenes, which are received with increased interest and enthusiasm. This surely is a good proof of the necessity for the cinematograph to be utilized as a permanent recorder of history.

France has already established a cinema archive for the purpose of preserving the most important public events taking place the world over, so why should we lag behind?

Aside from the public side of the matter, even we private beings would do well to call in the film's aid.

Let us begin with the baby. By having fifty feet or so taken of him in a natural way, and following this up with more fifty-foot snaps of a few years' duration until the

child had grown up, it would enable the fond parents to revel in their offspring's happy childhood days. As for the grown-up youngster, how pleased he would be to hark back to his youth, when in the evening of his life. He could follow his progress from babyhood to manhood within twenty minutes.

In their old age, parents are fond of relating the intimacies and happenings of family life, but it often happens that time has played havoc with their memories. This plan has already been followed by some of the wealthy families, who are taking care that the camera men are kept at work taking scenes about their estates.

XV

THE STUDY OF ATHLETICS AND SPORTS BY MOTION PICTURES

IN real life athletics put over their stunts at such a rapid pace that a close-up study of their movements is out of the question.

Photographs have been suggested as a way out of the difficulty, but it is seldom possible to catch a motion at the right time, while the motions would not be continuous.

Motion pictures offer an effective solution. To obtain films true to life, they must be taken at the rate of sixteen "frames"—or pictures—to the second. There are sixteen of these frames on a single foot of film, or sixteen thousand in the case of a one-reel production.

Therefore, under these conditions, the study of athletics is just as far off as before. The only way out is to slow up the movements, which would seem an impossible task were not the motion picture so versatile.

Cinematography reverses many things,

so a number of athletic games like running, jumping and throwing the weights were filmed at the rate of one hundred frames to the second, which feat was accomplished by a motor attachment to the camera.

In the studio is a peculiar kind of clock called a "chronoscope," and it is introduced in order to show the time which elapsed between each motion.

It contains but one dial, which is operated by clockwork. The face is divided up into twenty sections, each one of which represents one-twentieth part of a second. The chronoscope is set in motion immediately the camera man turns the crank, and continues until the motion has been completed.

The film, when seen on the screen, is projected at the normal speed. The results amaze, when the two methods are contrasted; although the hurdler travels as fast as an express train, he is made to walk along at the pace of an old man. When he leaps the hurdle, he is as graceful as a bird.

Harvard College has adopted the film as part of its athletic training. The work is in charge of Percy Haughton, the football coach, who has had films taken of the teams at play. He has already been able to trace

some of the weak points of his men to their source.

In baseball, the New York National League has utilized the motion picture to stamp out all useless motions. With this object, pictures of the players in action have been taken. These are diligently studied, and the speed in which amateur and professional pitchers, catchers, batters and basemen work is therefore available. The method is so scientific that the exact time a pitcher takes in the wind-up, the speed of the pitched ball, the angles assumed by its curving, and how long the batter is in finding out he has banged it and making a start for a new base, the precise period the catcher takes to recover after taking the pitched ball, and then run 129 feet along the track to try to put out the runner speeding from the first base to the second—all these things are revealed.

As to horse-racing, a French trainer has discovered that it is instructive to visit the motion-picture theater in order to see the races in which one or more of his horses have run.

In 1914 there was a dispute over the Derby—the English classic. "Bumping"

and "boring"—foul play on the part of the jockeys—occurred, but many disagreed with the steward's decision, who stated that it did take place and disqualified the favorite. The motion picture, however, had recorded all these incidents, and thereby proved its worth as a judge.

In boxing, too, champions have found it instructive to have their efforts recorded on the film and self-criticize them when later thrown on the screen.

In England, not so long ago, an attempt was made to instruct the amateur golfer in regard to the correct way in which to play his strokes. Accordingly, several famous golfers posed for a bunch of snapshots, but when these were put on a mutoscope machine in rotation, it was found that they lacked continuality.

But all shortcomings were obviated when J. A. Taylor, five times world's golf champion, consented to give a demonstration for the film, by which it was possible to follow every movement of the body, with the start of the swing-back until the follow-through was over. The predominant features of the pictures were the champion's marvelous driving and his excellent "putting" and

"stymie" strokes. Several close-up views served to clearly show the right positions the hands and feet should be in.

One peculiar thing about cinematography is that an ordinary quick movement appears ridiculously rapid when the film is shown on the screen. For this reason, Mr. Taylor did not work with his customary pace, but slowed down in order that his actions would get over effectively. This film, which only took fifteen minutes to show, taught the amateur more than he could have learned in weeks by any other method.

I am also informed, on very good authority, that several professionals, when off-color, find the motion picture highly instructive.

XVI

WHY NOT A ZOO FOR EVERY TOWN?

ANY person interested in the welfare of animals must greatly regret that beasts and creatures of the forest, field, stream and air are penned up in such artificial places as zoos. While the animals do not suffer physical cruelty through their forced imprisonment, it is certain that it causes them mental pain. To keep nature's creatures prisoners is directly opposed to the law of mankind, no matter how good the intention may be.

The zoo is only a pretense made to deceive the animals into the belief that they are living under natural conditions. Rocky ponds for polar bears, and caves for bears and wolves, are but mockeries compared with their natural homes.

They also suffer considerable discomfort at the hands of visitors, who overfeed them with unsuitable food, while children like to tease them. It is all these unnatural things,

and more, that contribute to the number of untimely deaths.

After all, what are zoos really for? Mainly that folk can study wild animals, but this purpose holds no ground whatever, since this desire could only be completely satisfied by viewing them in their natural homes. Here they possess perfect freedom and are not conscious that any human being is in sight.

How, then, can the long-sought-for problem be solved? The ideal substitute is the versatile motion picture. Just think of the many times it has transported people to the African jungle, and even to the strange creatures in the vast wastes around the North and South Poles.

The men who film these natural-history studies deserve to be praised for the courage and resourcefulness they so often display. In the case of an unsavage creature like the fox, the motion-picture operator places a dummy tree or cow near his den. As the contrivance is hollow, and holes are provided for observation purposes, he can film without being seen. But before he commences the actual work, he generally installs a motor, in order to accustom his quarry

to the clicking of the motion-picture camera.

When, however, he is on the war-path of denizens of the jungle, he varies his plan and employs the most appropriate dummy animal. He also smothers himself with some vile-smelling liquid, which completely deceives the strong sense of smell possessed by the beasts.

My idea is this: Abolish ordinary zoos, and deport all their occupants to where they rightly belong; then replace them with motion-picture zoos. From time immemorial the big cities have enjoyed the monopoly of the ordinary kind, whereas, if the reformation came to pass, every small town would be in a position to boast of a motion-picture zoo, with films of all kinds of animals, birds, insects and fishes known to be in existence.

The most suitable place in which performances could be given would be the public library. The funds for same would be very nominal, and could easily be provided for out of the taxes.

The library could obtain its collection by buying a positive copy of every suitable natural-history subject from the producers.

At an appointed hour daily the whole

collection of motion pictures could be run through for the edification of visitors, who would learn more in a few hours than in a thousand visits to the ordinary zoo, and, at the same time, find the new method the more entertaining of the two.

A motion-picture zoo is as essential as a well-stocked library, and as the film plays such an important part in American life to-day, there should be no opposition, but support rather, on the part of municipal bodies.

XVII

DOMESTIC SCIENCE BY MOTION PICTURES

NOTHING seems impossible by the motion picture these days, and there exist big possibilities in the field of domestic science. Several of these possibilities have been converted into accomplishments, and if these can be profited by, so much the better, for the path of the pioneer bristles with difficulties.

Let us, first of all, take the selection of food. An Indiana meat-purveyor recently had a film produced entitled "Meat, and How to Buy It." This picture informs housewives as to the different kinds of joints, the nutritive value and relative cost of same. The film advises spectators to avoid the choice cuts, which cost more, while the apparently inferior cuts are seldom called for.

Carving is a subject about which a housewife can not know too much. One of

the producing companies recently released for public exhibition a motion picture under the descriptive title of "Lessons in Carving."

The picture first shows a chef correctly carving a roast of beef. In front of the carver is the rib side of the roast, and he jabs the fork between the ribs just to the left of the center. He holds the knife in his right hand and makes long, even strokes in the direction of the ribs.

The duck is the next subject dealt with. The neck of the bird faces the carver's left, and he places the fork in the side directly in front of him. To sever the leg he cuts right through the skin and flesh until he finds the joint. The same plan is adopted in removing the wings.

He removes the breast meat by first cutting a long portion on each side toward the breast-bone, after which horizontal slices are cut in the direction of the center.

The turkey is third. The chef just pierces the skin and continues the right cut around the leg, using the fork to break down the joint. With the next cut he divides the drumstick and second joint. A third cut, and three pieces are made out of two.

Then the breast is attacked. The chef guides the knife over the shoulder and slices the white meat in the direction of the wing, from the breast.

The chef discards his knife when coming to a ham, and, instead, uses one of a special type. The carver planks the hock end of the meat by his right, and drives his fork a little to the left of the center facing him. The chef severs a thick, wedge-shaped piece from the butt end, and makes a horizontal cut toward the right in order to obtain the desired slices.

With films such as the two above described, many facts concerning domestic science could be portrayed in a more convincing manner than is possible at a lecture, where much depends on watching the movements, which are seldom equally discernible from all parts of the hall. On the screen, however, all the points are emphasized in close-ups, and the person in the back row obtains as good a view as her neighbor seated in the front row.

It is perhaps significant that Miss Grauel, president of the Housewives' League of Cleveland, now uses motion pictures in conjunction with her lectures.

XVIII

SPEAKING WORDS IN THE SILENT DRAMA

THE photoplay is so often referred to as the "silent drama" that one is apt to form the impression that the actors merely move their lips when supposed to be talking.

Not so awfully long ago, when realism was not the important factor it is to-day, characters were wont to say things before the camera which had no bearing on the situation. I well remember one photoplay in which the hero proposed passionately to the heroine. The scene was taken in a desert outside Egypt, and the heat was baking. Instead of saying "I love you. Will you marry me?" the hero remarked for the benefit of the director: "For heaven's sake, stop the camera a minute. I can't stick it much longer. The darned flies are biting my eyes out."

Another case occurred in staging a thrill. Mountain brigands were holding on grimly

to dangerous positions on the cliffs, when the villain complained about his boots. He was supposed to issue instructions to his band, but what he uttered was as follows: "I'm not going to climb this mountain with my pinched toes. I'm going to change my boots first." And he did!

An historical production called for an execution by the ax-and-block method. The "business" of the hero was to receive the ax from the headsman in order to feel how keen the edge was, but when this was being filmed the headsman chipped in with: "Handle that ax carefully, old top. It took me hours to polish it, and if you are not careful you will remove all the glitter."

Instances like the foregoing were really quite common, and they got by the majority of motion-picture patrons. But the minority had to be reckoned with—the producers left them out of their calculation—and as they were deaf-mutes, their efforts could not be put to a sterner test. The result was that the deaf-mutes were provoked to laughter in intensely dramatic scenes. Sometimes they left the hall because of having detected bad language. Both indirectly and directly this was brought to the attention of the

producers, who promptly took steps to abolish the grave defect. Signs were posted around the studio, requesting players to abstain from bad language in exciting scenes, while the director suddenly became strict. For all this, the players have no strict lines to adhere to—they say things that seem natural to the situation. If, for instance, a character is introduced to another, the first remarks: "Pleased to meet you." Should they meet a second time, the greeting is, "How do you do, Mr. Brown?"

On the screen you may be greeted with such a title as "You are a coward." Now, unless the director uses this as a "line," and requests his players to put the proper amount of feeling into the sentence, it will not get across effectively. For this reason we are often able to catch such simple phrases as "Will you marry me?" "Mother," "No," "Yes." There is a technique in pronouncing words so that they get across the screen, and the recognized rule is to divide single syllables into two. This means that when a player exclaims the word "Father," he says it in this way: "F-ather."

The Cincinnati Self-improvement Club,

composed of deaf-mutes, decided to test "Cameo Kirby" because it was a stage adaptation featuring the selfsame star—Dustin Farnum. After seeing the photoplay, the club reported that it had been possible to follow many of the dialogue passages.

XIX

SELECTING MOTION PICTURES FOR CHILDREN

THE mistake made in setting a high moral standard for photoplays has been in fixing it the same for the matured adult as for the infant. This is foolish in the extreme. Take, for instance, the magazine field, where there is not one publication aiming to appeal to all kinds of folks, from five to ninety. It can not be done, so that the only solution in catering to their peculiar needs is to run special shows with suitable films.

The trouble now is that there is not a big enough supply of films for children being turned out. There are something like one hundred photoplays produced each week. These are of all descriptions and lengths, but the number fit to show children is pitiably small. The majority are quite in order for grown-ups, who are not at all impressed by viewing robberies, murders,

cases of drunkenness and divorces, abduction of girls, saloon and cafe scenes, and exaggerated love affairs.

The censorship boards that have sprung up all over the country have sought to eliminate these. In so doing they have not had a grain of common sense. These are the facts of life, and are necessary vehicles by which to point out a moral. Let the producers turn out films expressly for children as well as for adults and the censorship boards judge them by the two standards, and then they will be doing the right thing.

Why haven't the film producers already catered for the children? The fault, however, mainly rests with the exhibitors, for it is the duty of the former to study the needs of the latter. They frequently ask, in their printed matter which they issue to exhibitors, just what kind of films they prefer, and they are thus able to gauge the requirements of the majority. In no instance I know of has there been an overwhelming number in favor of films for children. It is only recently that special performances for children have been inaugurated by progressive exhibitors. The Strand Theater in New

York City, the finest in the world, provides morning entertainments for youngsters on Saturday, and its example should be emulated by every exhibitor in this country.

The producers receive occasional requests from mothers, calling for improvements in photoplays for children, but it can not be expected that they can act on same, when it is considered that there are twenty thousand motion-picture theaters in this country, which are patronized by millions weekly.

If this reform idea is to be carried out, it must be done by every woman who has the welfare of her children at heart, right now, and in collaboration with the exhibitors in her community. Unity is strength, and I would suggest that a petition be got up by each mothers' club, signed by the members and the exhibitor whose co-operation they have secured. The petitions should be couched along common-sense lines, using the statements and arguments in this chapter as the basis. Increased production of fairy stories, refined comedies in which children are featured, and educationals of all kinds, should be advocated. If this is done, the exhibitor will agree to run those films that

conform with the standard set, while the mothers, both individually and in co-operation with the club, will do everything in their power to make such shows and films a success.

There are two things to be considered in the meantime; namely, roping in the wavering exhibitor and permitting children to attend the theaters as they are to-day.

The exhibitor has pinned his faith so long to the ordinary shows that he is rather reluctant to experiment on special performances for children or erect theaters exclusively for them, but much can be done by united action.

It is, however, a grave action to bar the children from attending motion-picture theaters altogether. They save them from getting into mischief in the streets.

There are, it should also be remembered, good and bad photoplays as there are everything else, some of the latter running close to the knuckle. In communities there are exhibitors who are not overparticular what they show so long as they can get the crowds in. They often frame their advertising so as to appeal to the morbid and suggestive minded.

The best way to start out is to question children in regard to the classes of motion pictures they prefer. If these include Wild West plays, detective dramas and those dealing with the shady sides of domestic life, then it is up to the mother to poison his or her mind against them.

After this, select the high-class theaters in your locality, and then only permit one's offspring to attend when they have desirable pictures. I do not think it advisable to permit a child to go unchaperoned, as there is a great temptation to favor the undesirable shows.

The Parent-teacher Association of Missouri expects, on Friday and Saturday evenings, when the children attend in large numbers, the theaters to exercise greater care in selecting the programs. When the parents in the audience see a photoplay which is not up to the standard set, they have the name of it published. They consider this sufficient without announcing the name of the theater showing it.

The Minnesota Federation of Women's Clubs in St. Paul is now securing the co-operation of its members who attend the theaters in their localities, to report upon

the motion pictures shown. Using this as their evidence, they prevail upon the exhibitors to co-operate with them. They offer, in return, to boost their theaters to the members, local schools, settlements, associations, women's clubs and children.

In Louisville a Censorship Board for Children has been inaugurated. To show that they mean business, a constitution has been formed and passed. This is to the effect that at children's performances only approved films shall be shown, while their efforts are directed in co-operating with the producers in turning out films expressly for children.

The official board has been divided up into four committees. The Scenario Committee is for the purpose of advocating photoplay writing in the territory and to aid writers by reading scenarios. If they deem a story worthy enough to be shown to children, they pass it along to J. J. Murdock, the executive manager of the Keith circuit, who places it with one of the producing concerns.

The business of the Library Committee lies in getting children to know and appreciate those films approved by the board.

The Parent-teacher Committee has been formed to arrange with the numerous Parent-teacher Associations in Louisville for the formation of special motion-picture committees. The work of the latter is to persuade both parents and teachers to become supporters. There is also a Publicity Committee.

By working along these lines, the mothers of the nation can accomplish some really good work without seriously harassing the exhibitor or producer.

XX

MOTION PICTURES THAT CHILDREN LIKE

IT is not hard to understand why so many movements afoot for the solving of the child motion-picture problem have failed. It is one thing to place a program of films before a bunch of red-blooded American youngsters, and another thing altogether to please them.

Most of the folk identified with the uplift movement have taken a directly opposite course, while, had they adopted the middle one, they would have had results to show for their efforts. They have, for the most part, demonstrated no intelligence at all in the all-important matter of the selection of suitable pictures.

The usual course pursued has been to eliminate all comedy and dramatic photoplays, and never was there a greater mistake made. The business man does not permit work to occupy all his waking hours; he

gets relaxation in some form or another. The same applies to children, who attend the motion-picture theater to be entertained and amused.

I am prepared to admit that the film comedy is the weakest link in the industry. So many insipid productions, teeming with vulgar incidents, are produced, that the desirable ones are hopelessly in the minority. Crime is often made the subject of burlesque, and we must also consider those films which are above the heads of children.

But youngsters want to be made to laugh. To quote Miss C. B. Watkins, of the women's clubs of the Eighth Minnesota District: "Do not eliminate fun if it be clean. A good laugh always does a lot of good."

Or, as a girl phrased it: "One afternoon I went to the friendly house, and when I came out I was sick to my stomach, I had laughed so much."

If any one doubts the effect of a comedy on children, he should attend a motion-picture matinee and listen to the peals of healthy laughter when a really funny picture is occupying the screen.

In the desirable class I would include

comedies in which children are featured, cartoons *a la* newspaper comic section; in brief, those presenting wholesome humor.

The dramatic photoplay has come in for more criticism than any other class of picture, yet nine out of ten youngsters evince a genuine admiration for same. Naturally, the dime-novel type of film is far from desirable, but there are many dramatic subjects that possess excellent qualities for juvenile audiences. To sift the good from the bad is not an easy task, and Miss C. B. Watkins' analysis is as good as any:

"The actual act of a murder is seldom thrown on the screen, but portrayal of the following crimes is common:

"Instigation by bribery to commit murder or other crime. This is much more insidious to the morals than an act of violence, whose very nature repels; kidnapping and assault, especially upon young girls; hold-ups; the destruction of buildings by the use of bombs; the enticement of girls for immoral purposes.

"It seems to us that a safe rule to follow is this:

"Eliminate scenes which the child is unlikely to see in every-day life, if they take

a trend you do not wish his thought to take.

"The elimination of sights with which all children are familiar in every-day life is unnecessary, for instance:

"Do not condemn a scene because some man in it happens to be smoking. This is going too far. The fact of the smoking is incidental and the act is familiar, and therefore does not impress the youth one way or another.

"I should also add the play which overstimulates the imagination by exaggerated dangers and adventures. Such plays are unwholesome. I should add, in conclusion, another film—the one that holds up to admiration the silly flirtation heroine. The moving-picture heroine can act like a lady, and frequently does, without losing any of her charms. Our girls mold their ideals by the plays they see, the books they read and the people they admire. Let us put examples of right conduct before them."

Now for the viewpoint of the child. I questioned a number of boys, and all unanimously declared in favor of the Western drama, because of the pretty scenery and thrills.

These selfsame youngsters will not be

slow in hissing the villain when he gets the best of it, and when the hero comes to the rescue they applaud loudly. Thus do they realize the difference between vice and virtue.

Nothing pleases youngsters more than to be transported from the every-day world, and the further they can delve into romance the better they like it. It is for this reason that fairy stories prove so popular. Show them "The Sleeping Beauty," "Hansel and Grettel," "Golden Lock," "Three Wishes," "Aladdin and His Wonderful Lamp," "Little Red Riding-hood," "Jack and the Beanstalk" and "Cinderella," all of which have been filmed, and their little hearts will flutter with joy.

There are educationals and educationals. I happened to know of a body in Chicago who tried out the wrong kind. The subjects were too deep, dealing as they did with microscopic natural-history subjects, such as the dining habits of caterpillars and the metamorphosis of a butterfly. Although no admission fee was charged, one small boy confessed he would rather pay a nickel in order to see interesting pictures.

Educationals like "Wild Birds in Their

Haunts," "Lady of the Lake," "Panama Canal," "Uncle Tom's Cabin," "The Declaration of Independence," "Yellowstone Park" and "How Plants Grow" possess genuine entertainment qualities, and do not make the child feel as though the educational element is being forced down his throat.

XXI

THE MOTION-PICTURE POSTER MENACE

THE plea for better motion pictures should be extended to posters. This struck right home recently, for I have a married friend who, preferring to act as her own censor, always accompanies her children when they attend a motion-picture theater. Not because the law in New York forbids children under the age of sixteen being admitted without a parent or guardian, but owing to the fact that her offspring can not be trusted to keep away from undesirable shows. All a child has to do to evade the law is to wait in the lobby for some not overparticular senior to take him in.

Before the mother had taken this necessary precaution her youngsters had gotten into the habit of attending any motion-picture show that appealed to them. It was hard to get them to distinguish between right and wrong, so it came about that they were fed on a photoplay diet of blood-

curdling melodramas and suggestive comedies.

We knew that this was the case, because one day Will attempted to choke Alice, trussed her up like a barnyard chicken, and forced her to lie in the same position for hours. When their mother superintended their motion-picture visits, this sort of thing stopped for awhile.

One sunny Saturday Will joined a picnic party, one of whom, a little girl, fell into the lake. She was rescued by a young man, who was unable to restore her to consciousness. Will, however, applied first aid and revived her, and when we learned of his good deed we asked him how it was he had a knowledge of first aid.

"Oh, I saw it done at the movies," was Will's prompt explanation, which went to prove that if the right kind of pictures is shown, only good can result.

Shortly after this incident, Will dug a pit in the garden and was only prevented in the nick of time from covering Alice with earth.

The next day Will's mother was passing one of the nickeldromes she had banned, and noticed a group of children glancing at

the sensational posters. Among the youngsters was her Will, and, as she discovered his source of inspiration, she promptly placed the theater out of bounds.

What posters are fit for children to see? I consider these to be artistic creations, containing nothing sensational or suggestive. Perhaps the best method is that adopted by one of the leading photoplay-producing concerns, whose posters comprise several well-balanced photographs of the leading scenes, with an appropriate border.

The better-class theaters, however, rely mostly upon a lobby display of stills; that is, photographs taken when the photoplay was put on.

A photograph can not lie, but the poster artist may permit his imagination to run riot and misrepresent a perfectly desirable production.

XXII

CAPITALIZING NOTORIETY IN MOTION PICTURES

I WOULD be among the first to complain were the photoplay director to discard his excellent "realism first" slogan, but, like a good many other things, this (the photoplay's greatest asset) is at times sadly abused.

What is the dividing-line between realism and over-realism? In my opinion, it is perfectly proper for a director to stage an elaborate train wreck, because such an incident is liable to happen in real life and only the question of dollars is involved. But once he causes the hero to make a parachute leap from the top of the Statue of Liberty to the icy depths of the Hudson below, a human life is placed in danger.

We fans do not care for sensation for sensation's sake alone. We certainly admire the heroic deeds of the performers, but we do not like to see them carried to excess.

We can shut our eyes to a faked effect, but each director seems to try to outdo the other in putting over hair-raising feats. Why do they do it?

You do not find Mary Pickford, Lillian Walker, or like well-known players, associated with much daredeviltry. The truth is that the performers who take these chances are not actors at all; they are merely acrobats.

For a fee these "doubles," in which capacity they usually act, will carry out practically any stunt. They do not care a jot for police interference; in fact, they relish it because of the publicity—publicity of the kind which reflects discredit on the motion-picture industry. One performer who made a dive from Brooklyn Bridge was rescued from the North River by a police squad in boats. He was arrested and charged with disorderly conduct.

These stunts are not carried off without personal injury; indeed, sometimes death results. But once they have recovered, they are off for adventures new.

It was only by a miracle that one of these daredevils was saved from certain death in endeavoring to travel through the

Whirlpool Rapids, near Niagara Falls. He steered over the gorge safely, but when he arrived at the outer edge of the Whirlpool his engine refused to work. For five hours he drifted around in the treacherous waters, fearing that every moment would prove his last. The boat began to leak, and it was dark before the searchers, with powerful searchlights, brought him safely to land.

I know of a man who, for a substantial fee, was willing to leap from the Eiffel Tower in Paris. When the time came, he found his parachute was not in good shape, and wanted to give up the stunt. The director, however, would accept no excuse, so the man made the leap at a fearful pace, which resulted in his death. The camera man actually recorded his mangled remains for insertion in the film.

What effect do these films have on the morbid-minded? One film company recently received a letter from an ambitious actor who was willing to leap from the tower of the Woolworth Building.

Unfortunately, there is a darker side. A Philadelphia man, inspired to emulate the movie feats he had seen, and obsessed by the desire to have his accomplishment brought

to the notice of producers, plunged from the Brooklyn Bridge. His dive—216 feet—was a record one, but before attempting it he told his wife and friends of his intention. At first it seemed as though his plan would be interfered with, for, when he stood in the center of the main span, two policemen rushed to stop him. The man, however, climbed up one of the cables, from which position he made his dive. His dead body was recovered from the river several days later.

Another kind of notoriety is employing the motion picture to exploit actual criminal cases. Suppose some crook or burglar is the talk of the hour. He will doubtless be persuaded by some unscrupulous film producer, for a consideration, to re-enact his crime for the film. The criminal hopes to influence public opinion, while the fly-by-night producer thinks only about piling up his bank roll.

Sometimes the boot is on the other foot. This occurred in the case of Mrs. Florence Carmen. Her trial expenses amounted to $20,000, so somebody spread the report that she intended to portray the Bailey tragedy in a film.

When asked for her reasons against appearing in vaudeville, Mrs. Carmen stated it was cheap and sensational, but she had sufficient good taste not to want to re-enact her crime on the film. Her ambition, she admitted, was to appear in a society role. It is a significant fact that no motion-picture producer came forward with a contract.

Some time ago a particularly unpleasant divorce case created a sensation in New Jersey. Corine, the wife, not only divorced her husband, Frank Hallack, without a motive, but also had him put in jail. Frank Hallack, to prove his innocence, declared at the time that he will be starred in a photoplay entitled "Trapped," which will depict everything from the time he met his wife until she divorced him.

Another way by which producers sometimes turn notoriety to profitable account is by putting on a photoplay after a sensational crime has been committed. The story of this is so much like the actual case that were the names of the characters not changed you would take it to be a reproduction of the crime itself.

An instance of this took place with the

Frank case, when a producer re-enacted the lynching details in a film. Fortunately, however, the censorship boards in many cities prevented the picture being shown for public exhibition.

Do the exhibitors believe in pandering to morbid minds? No, emphatically no, so far as the majority are concerned, for they have no desire to see the motion picture stoop so low.

We go to the motion-picture theater in quest of wholesome entertainment, not to revel in the tragedies of the every-day world. We get enough of these served up in the newspapers, so we are offended when they do succeed in gaining admittance to the screen.

The menace comes from the mushroom concerns, who aim to make easy money on opportune occasions, so it is well that we have producers, censors and exhibitors who have ideals.

The efforts of these concerns are not sufficient to do the industry an appreciable amount of harm, and I should not be surprised if the censorship boards throughout the country unanimously agree to taboo films of this kind.

XXIII

THE PHOTOPLAY THEATER CRYING-BABY PROBLEM

WHO has not, during an intensely dramatic moment in a photoplay, been suddenly reminded of the cold realities of life—all on account of a crying baby? Of course the mother strives her best to calm it, but, having again settled down to enjoy the picture, you hear those annoying sounds for the second, or possibly third, time.

A crying baby in the photoplay theater is a pest; a pest because the very thing you visit it for—entertainment—is nipped in the bud. It is certainly true you do not have to listen to the players, as in the case of a vaudeville show or a stage play, but a crying baby, nevertheless, does distract your attention from the white screen.

The mother or guardian is not wholly to blame. As likely as not, there is no one at home when she feels she needs relaxation, and if the parent is not to be deprived

of the pleasures she has more than earned, there is but one alternative—to take the baby with her.

A child in arms can understand the pictures; a baby in arms can not, so it is superfluous to consider the character of the programs shown. The baby's feeble mind fails to understand what is taking place on the screen in front of him, and, as the mother endeavors to follow the picture, her offspring becomes restless and commences to cry. The wise mother will coax the baby to keep quiet, by all the resources known to her, but she is, after all, but human. If the baby persists in crying, she realizes that the pleasure of her neighbors is being spoiled, and consequently leaves the theater.

Why should spectators endure screaming babies? And why should the mother be practically compelled to leave the show before she has seen it through?

We now come to the fountainhead—the exhibitor—who has in his hands the solutions to both problems. Since the decline of the nickeldrome many high-grade theaters have been opened. The program is not all when from a dime to a quarter is paid for entertainment—we expect some comforts

thrown in. Many theaters end with a retiring-room each for ladies and gentlemen. To the unencumbered parent this adequately fills the need, but the mother in charge of a crying baby can not leave the baby to take care of itself.

In the Bronx district of New York City is a motion-picture theater which possesses a nursery. A trained nurse is in charge, and every mother on entering has the option of leaving her baby in the nurse's care. Should the baby prove beyond the control of the latter, a slide is projected on the screen to the effect that the mother is wanted in the nursery. There is little chance of a baby becoming discontented, for there is a sand-pile, swings, rocking-horses, low chairs and a crib.

Such an annex is required in every modern photoplay theater, and the expense would well repay the exhibitor, because many mothers prefer to keep away from the movies rather than be burdened with a troublesome baby.

XXIV

OPERA ON THE FILM

THE invasion of opera in the photoplay world is not exactly new—it has been steadily pushing its way to the fore since 1913. In that year, when in London, I well remember attending a demonstration of kine-opera, the invention of Mr. de Caro, who succeeded in synchronizing human voices with the movements of the pictures. Many opera artists from the Scala, Milan; the Imperial Opera-house, St. Petersburg, and the Metropolitan Opera-house, New York, were seen singing well-known extracts from famous works. The scenes that the artists appeared in were elaborately staged, while there were both a chorus and orchestra to support the principals.

It was anticipated that Edison's invention, the kinetophone, would make grand opera possible, but it did not record in a natural tone or manner what the players said, as was anticipated.

In 1913 the Thanhouser Company filmed "Tannhauser." The famous opera rather lacked incident, but was not in any way lacking in interest. The picture, with its lovely backgrounds and beautiful photography, was one of great artistic beauty. Miss Florence La Badie was captivating as "Venus."

"Carmen" was first done as a three-reel subject in 1913 by the Thanhouser Company. The story was one that lent itself to filming purposes, and the director neglected few opportunities. Marguerite Snow made an enticing "Carmen."

The Cines Company's version of "Carmen," produced in 1914, with Marguerite Sylva in the title role, was based on the book. The players traveled from Rome to Spain in order to obtain the necessary Spanish atmosphere, but the war delayed the release of same. It could not be shown in France because the rights to "Carmen" belong to the Opera Comique, and one of the negatives was lost on the "Ancona" when on its way to America.

The year 1915 saw the Lasky and Fox forces at work. The former captured Geraldine Farrar at a salary unprecedented

in the history of motion pictures. Her performance was characterized by realism. She imbibed the true spirit of the title role, and when she returned to the Metropolitan Opera-house she surprised Caruso by her roughness. That slap on the face momentarily stunned her famous partner, who, during the third-act fight scene, found Miss Farrar none too ladylike. She attacked him with such vigor that he had his work cut out to protect himself.

At the end of the embrace, Caruso, to get even, allowed "Carmen" to suddenly slip from his hands, resulting in her falling down. After the performance Miss Farrar and Caruso exchanged some hard words. Caruso pointed out that she was not in the movies, whereupon Miss Farrar suggested that he get another "Carmen." To this Caruso courteously replied that a repetition of the performance could be prevented by getting another "Don Jose."

The Spanish atmosphere was obtained in Los Angeles, where the bull-fight was staged before an audience of twenty thousand, permission first being obtained from the city government. Twenty professionals, Mexican matadors and bulls imported from

the famous Madero ranch in Mexico added the desired finishing touches to a realistic production.

"Carmen" was first shown in Boston to humor Geraldine Farrar, who is a native of that city. But it meant another conquest for the photoplay, since Boston's famous home of music—the Symphony Hall —was acquired. This was the first time that photoplays were exhibited there. Miss Farrar attended the premiere performance, an orchestra of sixty accompanying the picture.

"Carmen" might have been written for Theda Bara, for she certainly knew how to "vamp" in the Fox version, when her Russian-French-Italian ancestry stood her in good stead. The picture was staged in New Jersey, where typical Spanish buildings were erected, and populated by about five hundred carefully selected Italians.

Unlike many of her sister players, Madame Anne Pavlova did not journey to California in state. The Universal Company took the studio to her when she made her *debut* in "The Dumb Girl of Portici," an adaptation from "Masaniello," Auber's famous opera.

Pavlova and her company were playing at the Midway Gardens, Chicago, during July, 1915, and Pavlova simply journeyed, every afternoon, to Sans Sonio Park, near where a temporary studio had been put up. This enabled her to perform her regular ballet engagements without interference. At the end of her Chicago engagement, however, the lure of California proved too strong and she traveled in a special train to Universal City in order to do the exteriors. Lois Weber, the director, could not have possibly selected a more suitable vehicle for Mme. Pavlova's peculiar talents, while the direction was admirable.

Pavlova was not satisfied with several of the dancing scenes, and it was at her suggestion that they were retaken in New York. Even then, the dancer had to travel from Boston. On this occasion she objected to a red-haired property man, whom she considered a bad omen, and, bowing to her whim, the director dismissed him.

"The Dumb Girl of Portici" was first presented at the Globe Theater, New York. On the first night Mme. Pavlova was appearing in Salt Lake City, Utah, and was advised of the reception accorded her film

efforts, by a special wire from the theater to her hotel.

Usually the music is written for the photoplay, but "The Fall of a Nation" was written for the music, Thomas Dixon, the author, even preparing a special libretto. The original score was entrusted to Victor Herbert, who spent four weeks in Los Angeles getting a large orchestra in shape at the National Film Corporation's studios. Mr. Herbert worked in the private theater, and after each reel had been edited by the cutter, it was run through for his benefit.

Each scene was treated individually, yet so skillfully done that the central themes and motives blended into a harmonious whole. Mr. Herbert got away from the patchwork idea entirely.

"Hundreds of music lovers have told me," said Mr. Herbert in a newspaper interview, "that their pleasure in picture presentations was to a large extent spoiled by the patchwork character of the music. When the orchestra played, they heard bits of 'Faust' or 'Tannhauser' or 'Traviata' or 'Carmen'; the hearing of the music flashed pictures from those operas on the minds of

the spectators, and attention was distracted from the characters in the story."

How "La Boheme" (Puccini's opera) came to be filmed is an interesting story in itself. Alice Brady saw the spoken version at the Metropolitan Opera-house, where she met the prima donna after the performance. During their conversation Cavelieri suggested that she appear as "Mimi" in a screen version of same. Miss Brady thereupon took up the matter with her director, who decided upon Murger's story as her next vehicle.

Then Puccini, the composer, threatened an injunction for infringement of his rights, but when the picture was completed, William Brady, the producer, invited Nathan Burkan, the composer's attorney, and members of the Metropolitan Opera Company to attend a private exhibition of the production. After he had seen the film Burkan declared it too beautiful to be interfered with, and cabled Puccini that he was in favor of its being distributed.

At Boston the picture was given its first showing at the Park Theater, where Miss Brady sang for the opera in connection with same.

"Queen of the Roses," an adaptation of Leoncavallo's opera, "La Reginnetta Della Rose," was given its premier showing at Candler Theater, New York. The orchestra of the Metropolitan Opera-house was "raided" so as to provide fifty soloists.

The picture was produced in Italy with an all-Italian cast, and the promoters staked more on the music than the picture.

XXV

SPIRITUALISM BY THE FILM

THE motion picture has received but scant attention at the hands of spiritualists. This is all the more surprising when, as we all know, trick movie camera work can put over some remarkable spooky stunts. Maybe the genuine spiritualist has purposely neglected the opportunity because it would bring about even more accusations of deliberate faking.

However, about two years ago, in Paris, spooks were experimented upon with a motion-picture camera. The medium employed was a Frenchwoman, who, for a period covering four years, had her seances recorded by four cameras, to which she could not gain access.

The genuineness of this unique film was proven by showing every portion of the cabinet occupied by the medium, which revealed that nothing was hidden.

The medium next entered, clad only in

a tight-fitting, one-piece dress. Her hands and face were the only parts of her body left uncovered. She then sat down in the cabinet and the curtains opened and closed in turn, the hands being revealed all the time.

After this came the spook stunts, the first of which were many-sized hands which hovered over the medium's head.

Secondly, shoulders, heads, as well as complete human forms, floated in the cabinet.

Then the spirit set itself free from the medium, moved about like a snake and disappeared into the medium.

Baron Dr. von Schrenk-Notzing, a famous German authority, stated at the time that these tests satisfied the exacting requirements laid down by science.

Mr. J. N. Maskelyne, who has amazed Britishers with his spook demonstrations, is inclined to the opinion that the motion-picture camera can not put over his best illusions more convincingly than his present methods.

I recall, in the fall of 1913, when in London, seeing a photoplay which exposed the methods of fraudulent spiritualists. It

was written and produced in England by a recognized authority on spiritualism.

In brief, the story told of an heiress who was puzzled at a supplement missing from her father's will. She offers $25,000 for the lost codicil.

A gang of charlatans get her in their power and persuade her to go through a seance. There she is much impressed by their methods, especially when she sees the spirit of her dead father through the magic crystal. This effect is produced by one of the gang making up as the father.

When she asks what is in the codicil she is advised to invest $25,000 in the Motor Oil Company, a fake concern run by the crooks.

What interested me more than the story was the exposing of the tricks of the trade. Little does the medium know that her hands are tied in slip-knots, or that the lower of the combined writing-pads used for recording the questions is waxed, the writing later being reproduced on the other side of the curtain by using the graphite. The answers are written with an electro magnet.

But what would surprise the medium even worse would be to learn that a tele-

phone contrivance is hidden in her hair. This repeats everything to a man at the back of the curtain.

It is only to be expected that a debatable production of this character would meet with opposition. The producers got their first taste of this when a committee representing the North Midlands District Union of Spiritualists called at their offices. They insisted that the production was a direct attack upon spiritualism in general, whereas the producers assured them that they only exposed the fraudulent kind.

The main objection raised was the title, "Spiritualism Exposed." The producers had already printed all the positive copies they needed to fill orders, while the posters to advertise same were already in the hands of exhibitors, so altering the title at the eleventh hour would necessarily be an expensive procedure.

The company finally agreed to have slips pasted over the posters, making the title read, "Fraudulent Spiritualism Exposed."

Whatever your views may be on spiritualism, when we get down to the domestic variety—ghosts—we are all interested.

A French landlord had the misfortune to own a haunted house in a lonely part of Lyons. His tenants were of the come-and-go order, for, as soon as they became acquainted with the ghost, which had the most unnatural habit of appearing at daytime in one of the rooms, they moved elsewhere. This ghost was a man so old and bent that it was with the utmost difficulty that he walked. He always carried a lantern and had a most pitiful voice.

There came a time when the landlord had no tenants at all.

He had what might be called the movie money-making instinct. "What an unusual subject for a film," he murmured to himself. He soon got busy, but he discovered that camera operators who possessed sufficient pluck to undertake the task were at a premium.

At length, however, his man came along and began his long vigil in the haunted room. He did this for six days in succession; still no ghost appeared. He quit on the seventh day, when, strange to say, the ghost was on the job. Evidently he objected to the widespread publicity he would obtain if he posed for the movies!

XXVI

BIBLE STUDY BY MOTION PICTURES

IS it possible to study the Bible by motion pictures? One's mind instantly turns to such religious productions as "From Manger to Cross," "Samson," "Daniel," "The Star of Bethlehem" and "Joseph in Egypt," for an answer to the question.

Biblical subjects require reverent treatment, consequently are full of pitfalls when produced by manufacturers of modern comedies and dramas. It must be admitted, however, that there was no opportunity for faultfinding in regard to "From Manger to Cross." This masterpiece was produced in the Holy Land, and, as evidence of the pains taken, Sidney Olcott, the director, returned to America with a letter from H. H. el-Hussein, the mayor of Jerusalem. Here it is: "Mr. Olcott did not spare any effort to perform the production of the life of Christ on the original spots whenever possible, but in all instances gathered the

best data and material as well as a most competent *personnel* of artists to attain the high degree of efficiency." The Turkish Government stamp proves the authenticity of the letter.

The scene where our Lord takes the cross to Calvary, for instance, was filmed on the Via Dolorosa, the road of sorrows. "Christ" fell down exhausted under the weight of the cross near the convent of the Sisters of St. Veronica. This piece of acting so much affected the nuns who were watching, that all gave vent to weeping, one sister coming to the rescue with wine.

Many scenes were taken in Bethlehem and on the Mount of Olives.

"Samson," however, from a religious standpoint, was not so successful.

There was a tendency on the part of the director to appeal to depraved tastes by strongly emphasizing Samson's lower life, while hardly touching upon his higher life.

It can not be denied that Warren Kerrigan was an ideal actor for the name part. He has the physique and made the most of his limited opportunities.

One wonders how Samson managed to break the jaw of the lion with his bare

arms, but, to quote from "Making the Movies": "The director had 'Jack of Hearts' handle the lion—the tamest one in the zoo—and then leave him. The camera was stopped while the lion was drugged, and, without any apparent break in the film, Warren was seen mastering the almost unconscious beast."

No fault could be found with the costuming or the settings, but the temple scene was a marvel of realism. The pillars looked genuine, and as they are pulled over one by one by Samson in his fury, one imagines the "crowd" could not have escaped uninjured.

The story was founded on the Old Testament, the subtitles being quoted from the Bible.

In one of the important scenes, at its trial run in the studio theater, appeared what looked to be a large bird above the skyline.

"What's that aeroplane doing there before the time of Christ?" commented the keenest one in the group.

The director's oversight had been discovered, and it was deemed advisable to retake the scene. That error ran the com-

pany into a nice extra sum. This instance is worthy of mention as showing the pains taken to insure correctness of detail.

Before Lawrence Marston went ahead with "The Star of Bethlehem" he consulted several theologians, who helped him to decide several vital matters. One of these was, "What did the prophet Micah look like?" and he finally chose the picture of Moses on the mountain. He surmounted most other difficulties by following famous paintings.

"In assembling our 'Star of Bethlehem' characters," said Mr. Marston, in speaking of his trials, "the problem of the age of Herod confronted us. Historical fact had it that he was an old man, and had it, too, that he was dead four years before the birth of the Redeemer.

"Again, in the matter of the Wise-men the text of Matthew stated that 'Herod spoke to the Wise-men privily'—privately. It is hardly likely that a monarch who feared strangers as Herod did would have received three of them 'privily.'

"And so it is that he who produces a picture on which he must go back into the ages for facts, must weigh all of them with

common sense. The task of the producer of a Biblical story is not an easy one, but it is interesting and gripping by reason of its difficulties. The extra thought and care one must give to so important an undertaking fill one with a high sense of the magnitude of such a work."

"Daniel" was a worth-while production in every respect. The story was written by Madison C. Peters, who developed the characteristics in a praiseworthy manner.

Courtenay Foote gave a dignified portrayal of the younger Daniel, while Charles Kent, as the older Daniel, was equally convincing.

The fiery furnace was erected after the most reliable data available were studied, and when Shadrach, Meshach and Abednego are seen stepping forth from the fiery furnace, not touched in the least by the flames, one marvels at the director's skill.

Another elaborate setting is "The Dream of Nebuchadnezzar," who beholds the great statue of gold and silver collapse and break into thousands of pieces. The statue was modeled in clay first of all, then cast in plaster, a half a ton of which was used. Gold and silver paint were lavished

to give it the finishing touches, and, altogether, over $600 was expended. The statue stood to a height of twenty feet.

What is the effect of these productions upon motion-picture audiences? Do they impress them to a favorable degree?

To take one case: When "From Manger to Cross" was shown at a Pontefract (England) motion-picture theater, it attracted almost the entire population, and the Rev. W. Gell, the local vicar, took the liberty of stepping to the front of the house and calling upon the audience to keep silent during the projection of the film, which impressed them so much that the vicar followed it up with a short prayer service.

Dr. Shriver, superintendent of the Immigration Board of the Presbyterian Board of Home Missions, visited a photoplay show which had "Joseph in Egypt" as its attraction. Among his neighbors were a mechanic and his wife, who explained the Bible story to him during the presentation of the picture.

As Dr. Brethren stated: "Doesn't that carry home one thought to you?

"For years you have been trying to interest the people in the story of Joseph

in Egypt, bidding them to come to our churches to hear it freely. Here is a theater where people are paying money to see the story truly and entertainingly told. I do not propose to turn our churches into theaters, but I do call attention to the importance and value of this unconventional method of holding and interesting your congregations."

All that Dr. Brethren says is very true, but the difficulty is to adopt his suggestions, for it is only now and then that a Biblical picture is produced.

The Rev. Dr. William Carter, general secretary of the International Peace Forum, in addressing an audience of motion-picture men, said: "What could be more dramatic than Elijah on Mt. Carmel with the 450 of the prophets of Baal, waiting for God's answer by fire to show the true from the false? What could be more thrilling than Jezebel being thrown from a window to the dogs below for her wicked and licentious folly? What could be funnier than Balaam's ass turning to tell his master to 'go fast,' or Eutychus falling asleep when Paul preached too long a sermon, and falling out of a three-story window, thereby breaking up the

sermon and the congregation at the same time?

"There is every element of the dramatic, the tragic and comic in these Bible stories."

To-day is the age of the specialist, and there are indications that several producers will arise to supply the present lack of Bib" -l subjects.

Already the National Bible Play Society has started work at Las Vegas, New Mexico, where the scenery resembles Palestine. The society's plays will be adapted from both the Old and New Testaments, but first the scenarios will be passed by an interdenominational board of ministers, so as to insure accuracy. These films will go the rounds of churches and Y. M. C. A.'s.

Frederic Thompson, a well-known director of spectacular photoplays, provided he obtains adequate support, will picturize the Bible. He states that the undertaking will consume at least eight years, involving an enormous outlay.

If the project matures, the stories will be selected by a "cabinet" of twelve members, carefully chosen from all walks of life. The players will not be "starred"; their identities will be concealed because of the

tendency to see a picture for the player alone.

Each picture, before released, will be supervised by a censorship board of one hundred members.

How Mr. Thompson proposes these films will be used in churches is that a minister will need one to illustrate his text, a library being established for this purpose.

XXVII

PUTTING OVER SERMONS IN PHOTOPLAYS

IT takes a long time for anything to live down its bad name, but now the photoplay producers are endeavoring to break away from the unwholesome type of picture. It still exists, it must be admitted, though the reputable producers, for the most part, possess ideals. They are not only out to entertain the masses with their dramas in celluloid, but to make them think as well. How do they accomplish it, then?

Many young folks have been inspired with a determination to lead an honest, clean life as the direct outcome of a convincing photoplay. Take, for instance, "The Blindness of Virtue," which shows how wrong parents are in concealing the facts of life from their children. Many parents can not summon up sufficient courage to take their offspring into their confidence, whereas they would not object to accompanying their

grown-up son or daughter to the local motion-picture theater showing the production. The subject is handled in a delicate way and removes the misunderstanding between parent and child.

"Hypocrites" is another photoplay of great educational value.

What is the difference between a motion-picture sermon and one delivered from the pulpit? I consider this is best summed up in the words of Rev. Dr. Harry W. Jones, of Spanish-American war fame. In resigning his pastorate in a Long Island town some time ago, he gave the following explanation: "I realized that I was wasting my time, for there are living characters whose actions as they unfolded their sublime story were far more important than anything I can say in the pulpit. A religious subject, tactfully and reverently treated, will, in my opinion, do more to advance the cause of religion and uplift humanity than a thousand eloquent preachers can ever hope to accomplish by their oratory."

Suiting the action to the word, he went into business as an exhibitor of educational and religious films, drawing patrons from his late congregation.

Another thing about the photoplay sermon is that it prevents folks from going to sleep, for they have to use their eyes, and the sermon is so attractively presented that the temptation is resisted.

The average churchgoer does not always let a good sermon sink in, for he is of the "Man from Missouri" kind. The film, however, shows him the effect and cause in actuality, consequently the lesson goes right home.

Naturally, church attendances are not so good as they were before the coming of the motion pictures, but the minister can cope with this competition by adapting himself to modern conditions.

At the time the photoplay adaptation of "Les Miserables" was enjoying an extended run in Boston, Dr. Meyers, preaching at the Tremont Temple, viewed the production of his own accord. It impressed him so much as an educational vehicle that he delivered a twelve-minute sermon, concluding same by advising his congregation to see the motion-picture version of Victor Hugo's masterpiece.

But the method that commends itself to me is one whereby the minister can raise

the moral tone of the photoplay theater. Every now and then an exhibitor runs an excellent sermon production, and on such occasions the ministers in the town might get together and prevail upon the showman to hold a private advance performance so that they may preach upon same. The congregation will manifest the greatest interest in such a timely and interesting topic. The exhibitor, in return, gives advance publicity to the sermon, thereby inducing outsiders to attend the church service. If the plan proves successful, it will inspire the exhibitor to have such films figure frequently on his program.

The minister who aspires to address a larger audience—the world itself, in fact—for his sermons, can obtain his heart's desire without having to resign his position, for there exists a demand for photoplay stories. I could name several pastors who have made good in writing scenarios in their spare time, but the leading exponent is Rev. Clarence J. Harris, who has had over two hundred photoplays produced, and is now scenario editor for one of the leading producing companies.

Many ministers get the mistaken idea

that the motion-picture producers refuse to consider their efforts, whereas the reverse is the case. They know that the minister is able to study many phases of life at first-hand, but the mistake too often made is to write a photoplay with the sermon element foremost in mind. The average motion-picture patron resents being preached at; he must be tackled in an impartial way, and this is by weaving an entertaining story around a moral lesson of paramount importance. The sermonizing value is not impaired in so doing. The minister would also do well to steer clear of religion, for it must be remembered that all creeds are represented in the motion-picture theater and what might be in good taste for one might prove offensive to another. The producer, therefore, has to maintain a strictly neutral attitude toward religion.

When a minister has had one of his photoplays accepted and produced, it is up to him to arrange with the local theaters to show the production, when he can deliver a sermon in connection with same.

XXVIII

RAISING CHURCH FUNDS BY MOTION PICTURES

IT has long been contended by many that the motion picture does serious injury to the church. This belief is based on the assumption that the motion-picture theater takes away people from the church on Sunday evenings. There is no doubt some truth in the statement, but when a minister finds his congregation decreasing, he himself is generally alone to blame. The habitual churchgoers are loyal because religion to them is something sacred. There are many folks who are attracted by inspiring music and good sermons, and when these things are lacking, they automatically switch over to the photoplay show.

Some churches have gone so far as to introduce motion pictures in their regular services in order to successfully combat outside influences; others have utilized same to raise funds.

To build a $20,000 church edifice with-

out being a penny in debt is what the motion picture has accomplished at Bowie, Texas. "The Alerts," a Methodist Episcopal Sunday-school class, had five months in which to raise the necessary funds, so they went into direct competition with a local photoplay theater. At first they volunteered to boost his business, but the exhibitor rejected their percentage proposition.

Fred Paire, president of "The Alerts," thereupon rented a building in the business section and equipped same with a home-made stage and screen, borrowing the chairs. Then projection apparatus was purchased and films hired. The films were carefully selected, in order not to conflict with the ideals of the church, and still be sufficiently entertaining to attract the general public. Advertising space was taken in the local newspapers, and the movement aroused so much interest that clubs formed motion-picture parties.

Quite a few parish houses have been built, thanks to that "Good Samaritan"—the motion picture. Two pastors—one in Peoria, Illinois, the other in Milltown, New Jersey—found the one church building

totally inadequate for their requirements, so they went ahead on a parish house, trusting to the motion picture to defray all expenses. Nor were they disappointed.

Rev. Dr. James Donohue, of St. Thomas Aquinas Church, Brooklyn, obtained the money for a parochial school before the building had even been started. The vacant lot which he had in mind he converted into an airdrome. He provided one thousand seats, obtained the necessary apparatus and presented a five-reel daily program. For ushers and ticket-sellers he obtained the services of church-members.

When the Epiphany of St. John's Episcopal Church, at Shenandoah, Pennsylvania, was much damaged by a tornado, a repairing fund had to be raised. The aid of the local exhibitor was sought, with the result that an evening was set aside for a benefit under the auspices of the Women's Guild, the members of which sold tickets prior to the show.

The Grace Methodist Episcopal Church, Locust and LaSalle Streets, Chicago, recently had to wipe out a church debt. At one of the regular Sunday services a film dealing with religion in India was shown. The

result was that the required one hundred dollars was collected.

Over in England, at Nottingham, a large Baptist chapel found itself in financial difficulties, so it occurred to the management to rent the building to a motion-picture concern.

The First Christian Church, Eleventh and Locust Streets, Kansas City, Missouri, has a separate auditorium accommodating eight hundred, which is equipped for the presentation of motion pictures. This may at any time be hired for movie shows.

Possibly the saddest case is that of the Rev. W. B. Codsell, pastor of the Congregational Church at Westfield, Illinois. He found that his salary was totally inadequate, so he inaugurated a motion-picture show at his church. Some of the more narrow-minded members of his congregation declared that his shows taught children to "emulate cowboys," consequently he was obliged to resign.

XXIX

INCREASING SUNDAY-SCHOOL ATTENDANCES BY MOTION PICTURES

THE motion picture is not immune from the abuses which have distinguished literature, consequently there are bad photoplays as well as books which are not fit for young folks to read.

To condemn a thing entirely because it is defective in some respects is opposed to American principles, so I can not be more fair than to dwell upon the desirable kinds of motion pictures.

Motion pictures are very popular with children of all ages, and they particularly enjoy refined comedies, inspiring dramas and interesting educationals.

There have been many influences to account for the falling off in Sunday-school attendances within recent years, and the only effective way to combat these is to utilize every possible modern method of enhancing the interest in lessons.

The motion picture has won its spurs because it can serve up dry facts in an appetizing manner. Bible lessons and the teachings of Christianity are made much more clear and interesting when told by motion pictures, which appeal to the eye.

As a well-known preacher said some time ago: "You can teach a boy a lesson in Sunday school, but he is not interested, and, if he listens at all, he soon forgets what he has learned, while the lesson of the motion picture is not only intensely interesting, but it has a dramatic and lasting effect on the boy. If I could select my own pictures, I believe I could reform any bad boy."

The Texas State Sunday School Association, at its 1914 convention, held at Fort Worth, made a resolution to the effect that the motion-picture producers be encouraged to put out more educational subjects as well as Bible and mission pictures, as the supply was not equal to the demand, while the Sunday schools were resorting more and more to the motion picture as entertainment.

Rev. C. F. Reisner, pastor of the Grace M. E. Church, West 104th Street, New York City, selects his programs from five thousand educational subjects. He does not

show religious films exclusively, but also lectures to films which depict such subjects as cotton-growing in the South, and wheat-raising.

Dr. Reisner is a pioneer in the church motion-picture field, and one minister who adopted his methods has increased his Sunday-school attendance by eight hundred.

In so far as Dr. Reisner's own Sunday school is concerned, he gave motion-picture entertainments to seventeen thousand children during the first year of operation. "I firmly believe," he said, "that these entertainments do as much to stimulate interest in Sunday-school work as anything else."

Not so long ago the superintendent of the Sunday school attached to the Central Presbyterian Church, Rock Island, Illinois, inaugurated a series of motion-picture shows. These are given on Friday nights, and only those pupils who have been regular in their Sunday-school attendance receive tickets of admission.

The Rev. Oscar C. Helming, pastor of the University Church, Fifty-sixth Street and Madison Avenue, Chicago, has converted his Sunday-school room into a motion-picture theater, in which he presents his picture

program. He reports increased attendance, and the shows have had a marked effect upon the older children, in that they have stayed.

All these typical instances go to prove that motion pictures are a necessary adjunct to Sunday-school work. The possibilities, however, in this connection, have not been fully realized, and the superintendent who is alive to these can improve his school.

XXX

ALLOWING CHILDREN TO ACT IN A PHOTOPLAY THEY HAVE SEEN

CHILDREN enjoy motion pictures because they appeal to the eye and make education a real joy, instead of something to be dreaded. As children are never happy unless mimicking or describing something which they have seen, there is no reason why this trait should not be capitalized in connection with Sunday-school entertainments.

Every child has his favorite motion-picture actor. I know of a party of four youngsters who play motion-picture shows every Saturday. The eldest sister impersonates Mary Pickford because she has long curls; her sister likes to be Ruth Stonehouse; her brother pretends he is Francis X. Bushman, while his little cousin acts like Bryant Washburn. They do not play in their back yard, but, instead, visit the best scenic places just like the real thing.

Up in Canada a class of schoolchildren went one better. They enacted a certain popular photoplay on the school platform under the supervision of their teacher, and the imagination and memorizing displayed were nothing short of remarkable.

The coach of a Sunday-school dramatic entertainment will not find it an arduous task to present a production if it is one which his actors have seen at the local motion-picture theater. Any photoplay will not suit—that is obvious—and the selection, therefore, of a suitable effort, should be guided by the following considerations.

Some photoplays are too melodramatic or vulgar for children to see. This leaves the refined productions. The average one, two and three part picture contains as much plot as a magazine short story. The feature production—in four reels and up—generally possesses sufficient story for a novel of moderate length, although it only takes an hour or so to run off the screen.

Care must be exercised not to utilize photoplay adaptations of copyrighted novels or stage plays. There is perfect safety in adapting original photoplays or those based on copyright-expired works.

The successful photoplay used to be the one of action, but the tendency to-day leans toward perfect characterization. The all-action story is no doubt easier for children to grasp, but it is harder for the coach to stage, as deeds have to be replaced by words.

After a story has been chosen and the cast selected, the players and coach should attend the local photoplay theater in a body and see the production over twice if this is possible. The coach, after the performance, should draw up a synopsis of the story and hand copies of same to the participants. Should dialogue be adopted to fit the situations? When a photoplay is produced the players have no lines to go by—they say things that seem natural to the characters. Of course what they say is not heard, but as the child actors will have visualized the story, they might be allowed a little license.

It will perhaps be as well to prepare a skeleton of the story in order to arrange the entrances and exits in proper sequence. The absence of the quick-change-of-scene element would make this necessary.

This entertainment plan should prove an excellent drawing-card.

XXXI

MISSIONARY WORK BY MOTION PICTURES

THOSE few missionaries who have ventured into the motion-picture field have good cause to be satisfied with the results they have achieved.

Probably the most fertile territory is the Philippines, where the motion picture has succeeded in preaching, among other important things, the gospel of sanitation. The films, as shown before several wild Filipino tribes, contrasted the old, unhealthy way with the modern, hygienic one. In the case of one tribe, the Secretary of the Interior for the Philippines reports that roads have been built, rivers cleared, public order maintained, hunting, slavery and piracy almost abolished, agriculture commenced, schools opened and barriers broken down between tribes.

In Hawaii the American-Japanese problem presents the greatest menace, and Dr.

Sidney L. Gulick is of the opinion that the motion picture is capable of Americanizing the Oriental population. He makes the following suggestions:

"If the sugar plantations should combine, they might employ an expert man or two on each of the islands, who could visit the various plantations and villages, in turn, and in time completely transform the mind of the entire population. He should have courses of lectures and reels on American history—'Colonial Times and Early Immigration;' 'The War of Independence;' 'The Civil War and Its Consequences;' 'Recent Immigration,' etc., etc. The education should also serve to acquaint the people with the principal events and meaning of European history—'The Middle Ages;' 'Feudalism;' 'The Reformation;' 'The Rise of Nations in Europe;' 'The Rise of Constitutional Governments and Democracies;' 'The History of Liberty.'

"But even more than this should be done. 'The Life and Teachings of Jesus' and the standard stories of the Bible should be displayed in such ways as to set forth the fundamental moral and religious conceptions of Occidental civilization.

"By the use of motion pictures (five cents to adults and free to children) the entire Asiatic population would be unconsciously swept into the circle of our Occidental life. Parents would move along with their children in their acquaintance and ideals. The chasm between parents and children, now dreaded, and to avoid which the Japanese schools exist, would be largely overcome.

"The man to give these lectures should, of course, be bilingual at least. Adults who understand little English should be addressed in their native tongues—Japanese, Filipino, Chinese, etc."

Even in Japan much educational work remains to be done in regard to Christianity. When "Quo Vadis?" was shown in Japan under the auspices of the Protestant Episcopal Board of Missions, it was seen by many distinguished folks, including members of noble families, rich merchants and people of the court who can not be persuaded to attend church.

The photoplay brought home most convincingly the principles of Christianity, and there is no question that its indirect influence was felt.

One persevering missionary in the wilds of Africa tried divers ways of gaining the attention of the hard-to-please natives, but failed in every instance. So, when a stranded American came along to the nearest township, and was glad to sell his motion-picture outfit for a mere song, the missionary decided to try the motion picture as a last resource.

One night he rigged up his camp show near the village of the heathens and invited all the inhabitants to be present. Unfortunately, as it turned out to be later, all his films were slapstick comedies, otherwise the right kind of films might have rewarded his efforts with success.

The natives were so astonished at first that they all stood up and then went down on their hands and knees as if to show reverence.

Before long they were literally laughing themselves to death, and became so unruly that the missionary had great difficulty in continuing the performance.

He experienced a sample of the effect the films had on them when, about a week later, he came across a band of natives acting with great vigor what they had seen.

Particularly exciting were the chase scenes, in which the blacks chased one of the tribe whose face had been covered with white clay to resemble a white man.

Things looked very serious when they staged the trick incident. One of the films had depicted a man brandishing his club on another man, only to find him suddenly disappear.

To the amazement of the natives, however, the victim remained where he was. Just as they were going to deal the victim another vicious blow, the missionary intervened.

When their attention was eventually secured they were told that the thing was not done in reality. The fact that they had been deceived got the goats of the natives, who, on the next day, attacked the tent when the missionary was absent and completely wrecked everything, including the projection machine. They used the strips of film as articles of jewelry.

But in the South Sea Islands, Vicomte de Geron, a Frenchman, runs a chain of motion-picture shows on the principal islands, which are doing much to breed the spirit of content among the natives.

Outside of dances and feasts, the natives have no other form of amusement, so the motion picture came as a boon and blessing.

The theater operator, at the first performance, blundered, which resulted in one of the reels of films running loose from his box. The natives did not know what to make of the incident, so they each purloined a strip of the film as a souvenir.

To-day the natives attend as regularly and are as orderly as any American audience. They are not, however, particular how old the films are. Those they see have first gone the rounds of a number of theaters in New Zealand.

Apart from enlightening them in regard to how the civilized world lives, there has been less law-breaking since the advent of the motion picture.

XXXII

TEMPERANCE AIDED BY MOTION PICTURES

THE weaknesses of the human race are the raw materials which the motion-picture producer is so fond of serving up on the screen, and since partaking of intoxicant liquor is one of the predominant ones, he has not hesitated to effectively put over the harms of this evil.

Neither the printed page nor the lecturer's eloquence can approach the motion picture for hammering the lesson right home. What is the reason for its superiority, then? There is, in the first place, considerable difference in the medium employed.

The motion picture is absolutely the nearest you can get to real life. The workingman addicted to the drinking habit sees, for instance, the havoc wrought by excessive drinking. The film reveals a home like his broken up—he is dismissed by his employer

and later his wife and children desert him through his brutality, and the drunkard finally winds up his career in prison. All this has been such a lesson to him that he reforms after his prison sentence has expired.

The motion-picture screen has converted many a drunkard, and I can offer no more convincing proof of this fact than the case of "John Barleycorn," Jack London's temperance photoplay. When this was about to be put on the market, the liquor interests of the country offered the producer thousands of dollars if he would suppress the film. The offer, by the way, was promptly rejected.

The immense popularity enjoyed by the motion picture has also had an uplifting influence upon the working classes. After the day's work is done, the husband naturally wants relaxation, and until the photoplay came along his haven of refuge was the saloon. The entertaining powers and cheapness of motion pictures proved irresistible, the result now being that the majority have gotten into the habit of dropping in at the nearest show for an hour or so of an evening, accompanied by their wives and

children. This is held to be directly responsible for the closing down of many saloons throughout the country.

Over in Britain they have had a new form of the drink evil to combat with. In many towns the motion-picture theaters can not open on the Sabbath. Before taking action in Newark, a suburb of Nottingham, the Church of England Men's Society sought first-hand information on the matter in regard to the moral effect upon the population. The report received from the chief constable stated that since the photoplay theaters opened on Sundays the town had become so law-abiding that it had been an easy matter to deplete the police force on duty by one-half. Moreover, the saloon-keepers were doing their utmost to have the theaters closed, as they had experienced an alarming decrease in their receipts.

The motion picture has also done good work in Germany. I can not give any latest figures, but I do know that over two thousand saloons quit business in 1911, and also that each inhabitant per head drank between two and three litres instead of four litres, as had been the case in previous years.

Does not all of this offer adequate testimony that the motion picture, through its far-reaching influence and excellent, thought-transference plan, has successfully accomplished the work of a hundred Billy Sundays, although I have no desire to belittle his efforts?

XXXIII

STAMPING DOWN CRUELTY TO ANIMALS BY MOTION PICTURES

AT Cincinnati there is an amusement place which corresponds to New York's Coney Island. When a Wild West troupe appeared there recently, the Humane officers made it their business to be present at the first performance and were rewarded by seeing two acts of cruelty. These were the bull-fight and a bucking broncho being forced to perform extraordinarily hard stunts, by using real spurs such as cow-punchers use. At the end of the show they had the show manager and his two riders arrested.

But they had the proof with which to put over their charge. It so happened that an animated newspaper man was on the job with his camera, and his employers loaned a copy of the film to the Humane officers.

The European war has done one good thing: it has stopped the decrepit-horse

traffic between England and Belgium and Holland. Horses which had served their period of usefulness were exported from London to these countries, there to be converted into food. The horses were in such a terrible condition that the humane thing to do would be to shoot them before they began their journey.

The Royal Society for the Prevention of Cruelty to Animals, in the early part of 1914, endeavored to pass a bill in Parliament to stop the shameful trade. They wanted the public to feel as strongly on the subject as they did, so that the bill would pass. They therefore had a film produced, covering all phases of the decrepit-horse traffic. The picture, when first shown, was so harrowing that it had to be censored before being released for public exhibition. Having seen the film myself, I can vouch for its convincing qualities.

It was intended to show the film in Belgium and Holland, with the object of influencing public opinion, but the war stepped in to spoil the society's plans.

With the advent of war, the British Blue Cross Society came into existence in order to administer aid to the wounded

horses on the firing-line in France. Had not the society in such timely fashion come to the rescue, the prevailing ineffective medical treatment of horses would have continued.

The society, however, was sorely in need of funds, so the idea was conceived of having a short photoplay produced. The story was offered to exhibitors in the ordinary way, the local member in each town doing all in his power to attract folks to see the film.

The various organizations for the prevention of cruelty to animals owe many thanks to the photoplay producers for putting over their "Be kind to animals" slogan in their regular productions. A typical example of this was presented in "Rags," in which Mary Pickford protected a dog which had been cruelly treated.

Not so long ago the New York Woman's League for Animals was responsible for a two-reel animal drama, the unique feature of the play being the subtitles, told in the language of the horse, who, by the way, acted with human intelligence.

The Massachusetts Society for the Pre-

vention of Cruelty to Animals later offered twenty-five dollars for a suitable scenario featuring animals and children, but bringing out why it behooves young and old to treat animals kindly.

XXXIV

THE MOTION PICTURE IN SURGERY AND MEDICINE

THE motion picture in surgery and medicine has not passed beyond the experimental stage.

By the film a subject is covered in a few minutes, although the actual experiments may have involved hours of patient effort. Nothing is destroyed by the speeding up; in fact, it is an improvement, since many movements are brought to light which would remain unnoticed in the operating theater.

Frequently animals are sacrificed for surgical purposes, but when this is done for the film only one such sacrifice is necessary. The negative records the experiment for all time, for positive copies may be struck off and distributed for simultaneous circulation. Moreover, the experiment is the same every time, consequently failures are practically nil.

To quote Dr. C. H. Heydmann, speaking at a medical demonstration in London:

"The value of cinematographic radiography lies in seeing the actual processes taking place in the normal body.

"We shall be able to travel with a piece of bread, a potato, a morsel of butter or meat, a pill or a glass of beer, from the beginning to the end of its journey.

"We shall see, through the eyes of the cinematograph, what each mouthful does to us and how it does it.

"Then, and only then, shall we be able to draw our correct conclusions as to beneficial or hostile elements without having recourse to simulated conditions of the laboratory or rule-of-thumb therapeutics or dietetics."

Dr. Doyen, who has produced fifty medical films altogether, is of the opinion that if the student sees a surgical operation on the film before viewing the actual operation, he will be able to follow the latter with perfect comprehension.

The College of Physicians and Surgeons intends using motion pictures as part of its course of instruction. At the first demonstration, held in New York City during March, 1916, five phases of surgical operating were dealt with in a five-reel picture.

The chief subjects, the removal of a goitre in the neck and the removal of stones from the bladder, were handled by Dr. Eugene Pool, of New York Hospital, and Dr. Charles Peck, of Roosevelt Hospital, both of whom lectured upon them.

The films were shown to an audience of two hundred in the tower lecture hall, in which a fireproof booth was installed to accommodate the operator.

How are surgical films produced? In the early part of 1912, Siegmund Lubin, president of the well-known film company bearing his name, invented a machine which combined the motion picture with the X-rays. This machine enables a man's digestive organs to be filmed.

"I do not allow any doctor to go out to the Philadelphia Hospital and take away patients to be photographed," Dr. Neff is quoted as saying in a newspaper interview. "But such physicians as are attached to the staff are permitted to do so, if the patient does not object. If the patient objects, that ends it. But I have heard of no objections being raised, and the patients become interested and enjoy the experience. It is a change for them.

"Mr. Lubin has been good to us. Our motion pictures of microbes in milk were made at his establishment, and he placed all the resources at our command."

I know of a Frenchman who actually succeeded in filming the digestive organs of a trout. This fish was put on a restricted diet which included flour, sugar, peptone, subnitrate of bismuth and water. For filming purposes he used a table which was provided with a glass pool at each end, in order to provide the necessary water to keep the trout alive. There was not an inch of extra space in which the trout could move, and the top of the envelope was covered with a piece of paraffin paper. This tube was placed in the receptacle under the table, the camera being focused on the glass and operated by an electric motor. The trout was compelled to fast for two days in this cramped position, the constant flow of fresh water keeping it alive. This is known as the Carvello system. A special-sized film, the depth of which is 2 3-5 inches, is used, and usually two thousand exposures per second are made instead of the usual sixteen. A motor controls the X-ray camera, and this motor can run at whatever speed suits the

subject. To cover an operation occupying days, the operator simply switches the clutch at the right gear, the result being that exposures are made at intervals.

Attached to the machine is a box which contains the roll of exposed film and two reserve rolls. It has been found necessary to overcome lighting difficulties by using a cardboard box as a hood. In the center of this box is a tube which has a fluorescent screen at its lower end.

Some time ago a German surgeon invented a machine called the bio-roentgenograph, which demonstrated some interesting facts concerning the stomach. In the film taken, the whole stomach was revealed at work, but when the animal subjects were excited or angered the stomach movements stopped.

The general course followed is to supply the patient with some digestible food—a regular meal, in fact—mixed with bismuth or barium, to be opaque to the Roentgen rays, which are behind the patient. The camera, however, is in front, where it "registers" the movements of the stomach, on negative stock larger than the standard size, at the rate of twelve exposures every

twenty seconds. The positive copies printed from the negative are on the regular film stock.

A motion-picture attachment to the electro-cardiogram has been invented by Dr. W. Einthoven, of Leyden, Holland.

The electro-cardiogram is operated by placing a tiny thread of quartz or platinum, the diameter of which is no larger than one-thousandth of an inch, in the magnetic part of a powerful electric magnet. At the back of the filament is an arc-lamp, where the motion-picture camera is located.

Dr. J. Comandon, the famous French scientist, has produced several X-ray subjects, chief of which is "Radiography in Practice." In this several living subjects were treated, of which may be mentioned the bones of the wrist, the hand in a rubber glove, side "close-up" of the knee, likewise the foot and the bones of the ankle.

In "The Examination of the Stomach" were shown the methods adopted by the doctor in getting ready the patient's stomach for the X-rays, and we see how the Crookes tube, which discharges the rays, is worked, the patient imbibing the dose of bismuth in order that his stomach does not remain

transparent to the rays, the Ruhmkorff coll. After this the patient's stomach is proceeded with.

Dr. Comandon set a new precedent in the producing of these films. The studio scene was divided into two sections. In the first the regulation motion-picture camera, equipped with a quartz lens, was stood and focused through the opening in the partition, which was dressed with a fluorescent screen. This screen was coated with calcium tungstate in order to affect the luminous radiation in such a way as to reduce the exposure.

In the middle of the other section the Crookes lens was located and the object was placed in position midway between the tube and screen.

Mico-cinematography makes it possible to descend the surgical ladder. One film I saw not so long ago showed blood corpuscles as large as dinner-plates. These were at war with dozens of large microbes, which kept hitting back at each other.

Lieut-Col. Sims Woodhead, professor of pathology in the Cambridge University, recently delivered a motion-picture lecture before the British Royal Army Medical

Corps on "Microbes Worse than Wounds." The first film, "The Blood Circulation," depicted the path of blood in a tadpole's tail. The second picture, "Relapsing Fever," dealt with the injection of bacteria in blood and showed the sperochaetae swiftly gaining in volume.

To quote from my book, "Making the Movies": "The lens of the motion-picture camera is focused through a microscope which magnifies objects from two thousand to seventy-six million times. The French companies who make a specialty of the work have fully equipped laboratories in which trained scientists prepare subjects for the film. Their work necessitates plenty of research, while much patience is involved in taking the films themselves.

"The most exasperating thing about germs and microbes is that they persist in moving about in groups and have no respect for the limited area covered by the camera's lens.

"The photographer, to avoid this, generally contrives to have them appear against a black background. The light at the sides is of two thousand candle-power and this is of only just sufficient strength for photo-

graphic purposes. To make it stronger would kill all of the objects. The rays of this light are conveyed to the lens of the microscope."

In 1912, Dr. T. H. Weisenburg, professor of clinical neurology at the Medico-Chirurgical College, Philadelphia, presented five reels of films dealing with nervous and mental diseases, at the Academy of Medicine. The leading picture introduced twenty-six patients for the purpose of demonstrating dementia præcox, which was followed by cases of maniac depressive insanity, chronic mania, paranoid states, paresis and melancholia.

As Dr. Weisenburg said: "We can take pictures showing the action of the heart on the surface of the body. We can show how in pneumonia a man breathes with but one lung. In fact, there is almost no field of medicine which we can not touch with the motion-picture machine.

"It is an expensive process, of course; but the expense is more than compensated for in the results obtained."

XXXV

DENTISTRY BY THE FILM

TO Dr. Cunningham belongs the credit for opening the door to dentistry. As founder of the Children's Dental League, he realized that slides and lecturers were out of date. He wanted something so strikingly convincing that the lesson would go right home. Dr. Cunningham could have doubtless obtained some victims of bad teeth and paraded them in circus fashion, but this plan did not please him. The scientific films he saw at the International Hygienic Congress, in Paris, convinced him that a film would enable him to cover much territory at once, show the harm wrought by defective teeth, at close range, and cover the subject thoroughly in a short time. The cost, proportionately, would not prove prohibitive.

He approached a leading French film-producing concern having a large laboratory for the production of educational subjects, and, arrangements being satisfactory to both

parties, the producing of "How to Save a Nation's Teeth" was commenced. A whole year was consumed in the making, yet the net results were only two thousand feet of film. But that seemingly insignificant picture depicted teeth as they grow from birth to adult age. The advent of the former stage was covered by the Symington radiograph. The lower and upper molars were shown working. This was done with the aid of clever models and still photographs. The second reel was given over to the ravages, for which microbes are responsible, arising from decayed teeth.

Sweden was the first country to be honored with the film, which made its *debut* before the Ministers of Civic Affairs and Education. For not holding the exhibition in a proper motion-picture theater, the police arrested Dr. Cunningham and imposed a fine. So he looked about for such a place and hired the Brunkelergsteaten, the most pretentious photoplay theater in Sweden. Here the film was shown to the press and four hundred delegates of the International Federation.

Dr. Cunningham produced the film for general educational purposes, and not with

the idea of teaching dentistry to those in the profession.

Human interest was imparted to the film by following it up with a picture showing teeth-drill in a Swedish school.

XXXVI

FIGHTING TUBERCULOSIS BY THE FILM

THE motion picture has a mission besides providing wholesome entertainment. That mission is to act as a crusader, and in fighting tuberculosis it has not proved disappointing.

In presenting facts it sometimes pays to serve them up highly spiced, and especially is this the case at the regular motion-picture theater. Folks go to be entertained, and if the lesson intended can be indirectly brought home to them, it is more satisfactory than the direct method, which is resented because no attempt is made to disguise the teaching element.

The Edison Company produced, in co-operation with the Anti-Tuberculosis Association, a photoplay entitled "The Price of Human Lives," the success attained by which encouraged the Edison Company to produce another propaganda picture, "The Temple of Moloch," this time under the

auspices of the National Association for the Study and Prevention of Tuberculosis.

While both of these productions were circulated through the usual channels, copies of same were afterwards acquired by the Cincinnati Branch of the Anti-Tuberculosis League to further the sale of Red Cross Christmas seals.

The films render able assistance in educational campaigns conducted by local societies, and may be hired from a film exchange for a nominal fee.

We will now pass to some direct campaigns which have borne fruit. No fault may be found with the direct method when such exhibitions are held free of charge, and the Atlanta Anti-Tuberculosis Association observed this factor in conducting a city health campaign. The films showed how the existing conditions in Atlanta could be altered to make it a more desirable city from a health standpoint. The pictures were lectured to by several well-known local physicians. As a relief, several comedy reels were presented.

The exhibitions were spread over five weeks, a show being given for three consecutive nights in a different section of the city.

The tuberculosis movement in Great Britain has been assisted by two films; namely, "The Fight Against Consumption" and "The White Demon of Consumption." The former was first shown at a recent conference of the Prevention of Consumption held in London.

The latter was supervised by the Woman's Imperial Health Association, and we may profit by the experiences of the Bristol Health Board in regard to the extent of exhibitor co-operation. The medical officer connected with same wrote thirty-five local, motion-picture exhibitors, twelve of whom replied. Most were willing to show the film free of charge, provided they could obtain the production at the same time as their competitor, and to this stipulation the Health Board agreed. To carry out same they hired messengers to take the film from one theater to the next. The rental charged by the Woman's Imperial Health Association was $15 weekly.

XXXVII

"BETTER BABIES" MOVIE CAMPAIGN

THE home in which motion pictures are not discussed is becoming rarer every day. This tremendously popular form of entertainment is ever spreading its tentacles —desirable ones albeit—and, as a natural consequence, the motion picture is to-day playing an important part in our national life.

All this tends to make the motion picture an even more powerful propaganda weapon than it was before. It is a family institution to which may be attributed the success achieved by the several "Better Babies" campaigns which have been conducted by this eloquent medium.

To commence at the bottom of the ladder, Chicago's Health Department sometime ago inaugurated a motion-picture campaign for better birth registration. The scenario, "Somebody's Birth Certificate," written by Dr. C. St. Clair Drake, dealt

with the stumbling-blocks faced by a man because his parents neglected to register his birth.

The Children's Aid Society once used a series of films, the most effective of which showed some flies attracted by a baby's bottle lying on the table. They settled on the nipple, after which a "close-up" of a fly appeared. Then the insect was subjected to a microscopic examination, the germs of diseases which he carried by his filthiness being exposed. The mother next entered the room cuddling her offspring. The picture concluded by her giving the baby the nipple.

The women and children comprising the audience could not restrain an exclamation of horror. What more convincing picture could there be than that?

During New York City's "Baby Week" in 1913, Katherine Eggleston, of the Publicity Committee, while not neglecting the newspapers, paid particular attention to motion pictures. To this end she saw that the several animated newspapers did not neglect to cover the parades, outings, illustrated teachings and prize baby shows.

There was a Nursing Exhibition held at

Glasgow, Scotland, early in January, 1914, a feature of same being the motion-picture mothercraft lessons. The following titles will afford some idea of the subjects treated: "How to Wash and Dress Baby;" "Tuberculosis;" "Heedless Mother;" "Bacteriological Views of Milk;" "Different Food Effects on Teeth;" "Do Not Obtain Your Experience at Baby's Cost;" "Nipple with Bacteria Attached;" "The Wrong and Right Baby's Carriage;" "How to Help a Baby Upstairs."

One of our leading producing organizations recently put out a series of "fillers." The pictures were shown at the regular theaters in the ordinary way, thereby reaching more people than if shown under special auspices. The latter phase of publicity was by no means neglected, for the co-operation of the Children's Bureau of the Department of Labor at Washington, D. C., was secured. New York City's 1915 "Baby Week" was augmented by the Chamber of Commerce, the Merchants' Association, the Federation of Women's Clubs, the Baby Welfare Association, the Sage Foundation and the International Pure Milk and Food Association.

The material was furnished by Dr. Roger Dennett, the famous infant specialist. Each successive step is shown—bathing, feeding, dressing, measuring and weighing the baby. Then come the mental tests, and normal children are put through the senses of smell, touch, taste, sound and sight.

The Missouri Federation of Women's Clubs, in conjunction with the State Board of Health, not so long ago paid particular attention to the baby problem. With this object in view they purchased reels depicting such subjects as insanitary and sanitary dairies, the proper way of handling milk, how to care for the baby and the transmission of disease.

It was possible for any interested town to hire the reels by communicating with Mrs. H. R. Shands, chairman of the Health Committee, Jackson, Missouri.

Those diseases peculiar to children—smallpox, measles and diphtheria—were traced to their source in a graphic series of reels prepared under the auspices of the Kansas Board of Health. Preventive methods likewise came in for attention. In the telling of each subject a story was unfolded.

XXXVIII

HOSPITAL FUNDS THROUGH A FILM "VISIT"

I HAVE often wondered why hospitals do not adopt the most effective medium in order to secure funds. Need I add that the motion picture is the one I have in mind? It is not easy to persuade people to visit the hospital to show them how badly it needs financial assistance, and even though many folks prominent in local charity work may be attracted, the masses have yet to be reached. And their small contributions are not to be despised.

Newspaper advertising seldom produces the desired results, for the announcements seem unconvincing in cold print.

Perhaps a better plan is to inaugurate a "Tag Day," yet the same fails to induce the "Man from Missouri" to loosen up. It has got to be proved to him that the hospital actually needs the money, and as one out of every five persons in the country visits the

photoplay theater at least once weekly, this is the logical medium.

The motion picture tells the truth as no other medium can; in fact, it is next best to paying an actual visit. Why not, therefore, have a film taken?

The Mercy Hospital of Kansas City, Missouri, recently had a film produced so as to raise funds for erecting a larger home. In the film are many crippled little children formed in lines waiting for their turn of treatment at the hospital's clinic. Long rows of overcrowded beds and inadequate facilities for surgical operations and treatment also tell the truth only too well.

Suppose the hospital is put in the movies, what would the cost be? It is hard for me to answer this question offhand, because everything depends on the character and length of the production. But the most inexpensive, and at the same time most convenient to the exhibitor, is the one-reel subject. The best kind of film is that which "takes" folks through the hospital, as then no expense is involved in production other than the bare necessities. The average price is fifty cents per foot, so, assuming the production is a one-reeler—one thousand feet—

the cost would amount to $500. But, as at least one positive will have to be made from the negative, a further outlay of $100 is incurred.

I know that $600 is a lot of money to spend in raising funds, but the increased funds that should accrue will justify the outlay.

The Mercy Hospital arranged with the Advertising Film Company, on a fifty-fifty basis, to have their film shown in conjunction with several one-reel photoplays in all of the theaters in Kansas City and vicinity.

If the above plan is adopted, the proceeds are not all, for spectators have received full value for their money, and those who are favorably impressed will contribute to the fund.

Another plan is to persuade local exhibitors to show the film free at their regular performances, and allow fund collectors to go around the audience after the picture has been shown.

Local newspaper men should be invited to attend the production of the film, and later when same is released for public exhibition. Much valuable publicity is gained in this way.

XXXIX

THE "FIGHTING INFANTILE PARALYSIS" FILM

THE infantile paralysis outbreak which struck New York during 1916 resulted in children being prohibited from visiting photoplay theaters. Whatever the exhibitors' feelings on the subject, the New York City Board of Health could not complain of lack of co-operation, for the exhibitors, almost to a body, exhibited slides suggesting preventive measures against the disease.

The producers were no less alert. Practically all the animated newspapers contained views of the principal causes that contributed to the spreading of the epidemic.

The Universal Company went further. At an expense of $4,700 they produced a one-reel picture, "Fighting Infantile Paralysis," in co-operation with the New York Board of Health. Some of the scenes were filmed under the supervision of an expert at the Rockefeller Institute. For other material

the camera man worked with two health inspectors as far apart as South Brooklyn and the Bronx. The Willard Parker, Kingston Avenue, Seabreeze and Neurological Hospitals were also visited.

In the picture the affected territories were shown with scenes of uncovered garbage-cans, near which children and cats play; fruit covered with fly-specks and touched by many hands before being finally eaten; dirty and crowded narrow streets lined with insanitary push-carts, and how the street department takes care of the garbage and flushes the streets.

Scenes were filmed at the Neurological Institute for the purpose of showing the methods adopted by Dr. Kaplan in handling the disease—douching the ears and nose, and boracic acid gargle, to name two typical incidents.

Other vital features included in this highly instructive picture were the precautions taken by the Bureau of Infectious Diseases, the Quarantine officials and the United States Public Health Service. In this connection monkeys were experimented upon in order to ascertain how and what causes infantile paralysis to spread. Chil-

dren were also shown leaving the city for the country by boat and rail.

Nor must I neglect to mention the two maps—one depicting the plague-spots of New York City; a larger one showing other affected parts of the country. The snappy subtitles, presented in English, Italian and Jewish, of the "Don'ts" kind, were composed by Dr. O. M. Leiser, of the New York Board of Health.

Fifteen prints were struck off from the negative so that it could be shown at New York's eight hundred motion-picture theaters. Thirty-five prints also went the rounds of the several thousand theaters from Maine to California.

But the co-operation of a powerful evening newspaper made it possible to reach an even larger audience. Several two-ton motor-trucks such as are employed for army transport work were obtained and equipped for motion-picture exhibitions. The translucent screen, five feet wide by four deep, was placed at the rear end. The current for the projection machine, provided with a short-focus lens, was supplied by two calcium tanks.

Each motor-truck contained a lecturer

from the Board of Health, who discoursed while the picture was being shown to spectators.

It is significant that other States and towns—South Carolina State Board of Health and Somerville, New Jersey, to name to—applied for copies of the production.

XL

CONDUCTING A PUBLIC HEALTH CAMPAIGN BY MOTION PICTURES

THE first spell of hot weather is the time for the municipal authorities to commence their public health campaigns, and the most effective medium is the motion picture. I need only refer to some of the results achieved in this connection, to suggest ways and means.

As is perhaps logical, New York City has taken the lead. The first step in the "clean-up" campaign, for which Commissioner Coldwater was responsible, was arranging with eight hundred exhibitors to show advance slides in their theaters. These slides drew attention to such subjects as flies, typhoid fever and care of the baby.

This was followed up by twenty free motion-picture shows in the parks and on the recreation piers situated in New York City. The program in each case consisted of four reels of the sugar-coated kind, bear-

ing the following titles: "The Story of a Consumptive," "The Production and Handling of Milk," "The City Beautiful" and "The Little Cripple." Judging by the interest manifested by spectators, the stories got across, sure enough.

Boston, too, inaugurated a campaign along similar lines, with this exception—the programs were not confined to health films. The other subjects shown were current news pictorials, refined comedies and animated cartoons, which resulted in increased attendances, the average nightly audience being from eight to ten thousand.

The exhibitions were arranged by the Committee on Park Shows.

St. Louis has adopted the plan for two successive seasons. Each park playground was equipped with a portable projection booth and a similarly portable screen, the gas-pipe frames making it possible to construct same with practically no delay. This screen was located fifty-four feet away from the front row of seats, but this space was not wasted, as it came in handy to accommodate children on busy nights.

The mixed programs appealed especially to the foreign element, who, for lack of

funds, prefer to spend their evenings in stuffy tenements. The performances commenced at 7:45 and concluded about two hours later.

These free, open-air exhibitions, I regret to say, are apt to antagonize the average exhibitor. This occurred at first both at Cincinnati and Nashville, but, instead of taking patrons away, these free shows actually produced extra business, converting, as they did, many folk to the movie habit.

It is a regrettable fact that both forms of entertainment come in conflict, for those to whom a dime is nothing will favor the regular show, and consequently the hygienic pictures fail to reach so many people.

It would not be worth while to hold the exhibitions during the morning or afternoon, since the majority of the population is otherwise occupied. Perhaps more satisfaction could be obtained were the co-operation of the local exhibitors sought.

I know of a showman in Marshville, North Carolina, who, of his own initiative, arranged a summer program. He set aside one night weekly for the showing of several health pictures, which included the following subjects: "The Mosquito," "The War on

the Mosquito," "The Fly Pest," "Life in Our Ponds" and "Boil Your Water."

I am certain that it would not be hard to prevail upon the exhibitor to do this, especially as he is assisting the community, and even were he not thus disposed, perhaps he would consent to run an occasional picture of this kind in his regular program.

What stands in the way of the widespread adoption of this medium is the scarcity of suitable subjects available, but even this fact need not deter one from carrying out one's plans, as a film can be produced along the desired lines.

The Massachusetts State Board of Health, for instance, has had two films produced, the stories of which relate to unhealthy living in its chief forms, and the harmful effects arising from same. The photoplays are entitled "Bringing It Home," and "In His Father's Footsteps," and the Board is prepared to loan these productions and supply a competent lecturer without payment, to any organization requiring same.

Children can not be interested in health and sanitation by the lecture or the literature routes, but show them a film on the subject and they will readily understand.

XLI

AMERICANIZING FOREIGNERS BY MOTION PICTURES

WHOEVER called America the "melting-pot" was right, for there is no other country so cosmopolitan in character. It is no light task to merge all the different nationalities into one, but the greatest obstacle of all is the difference of language. English, therefore, loses its force; there must be a more powerful medium than the printed page and the spoken word. I have that medium—it is the motion picture, which appeals to the eye.

The Ford Motor Car Company has found it without an equal in increasing the efficiency of the foreigners in its employ. The motion-picture department is in charge of Frank Cody, who loans to the Detroit night schools films dealing with factory processes.

The St. Louis municipal authorities made use of the motion picture some time ago

to educate ignorant foreigners and their offspring in regard to the main features of St. Louis in particular and America in general, the pictures depicting St. Louis, New York Zoo and American industries. The films were exhibited free in such suitable places as a Catholic church, police station, Jewish synagogue and a public school. On the first evening over ten thousand children of Italian, German, Greek, Irish and Russian parents were present, along with their guardians.

The National Americanization Committee recently held a meeting in Philadelphia in order to stamp out "hyphenated Americanism." At this important gathering was presented a series of films which dealt with the progress of the average immigrant, from the time he lands on Ellis Island until he becomes a full-fledged American citizen. The exhibition was given in the ballroom of one of the members' homes. The operator's booth was placed in the loft, the projection machine being focused on the screen at the lower end.

But Pawtucket, Rhode Island, deserves the greatest credit for putting the motion picture to its greatest use. It is estimated

that, of the 105,000 residents in Pawtucket and Central Falls, nine-tenths are foreigners. The Rev. J. D. Dingwall has established a Civic Theater, which has been praised by such prominent persons as the Governor of Rhode Island, the Rhode Island Commissioner of Education and the president of the North American Civic League for Immigrants.

There is nothing commercial about this theater; it is mainly supported by the American-born inhabitants of the two towns, foreigners being admitted free.

The chief difficulty at first experienced —the theater has now been running for more than two years—was securing a regular program of suitable pictures—pictures that were educating as well as entertaining. The tests made in this direction showed that war and Western subjects were greatly appreciated, but the Civic Theater carried out its ideals by including in its programs historical, biographical, sociological, hygienic and scenic subjects.

Another difficulty was the explanatory matter being in English. At first the motion-picture manufacturers were asked to translate their English titles into Polish,

Italian, Syrian, Hebrew, etc., but the request was too impracticable to accede to.

The Civic Committee, however, has surmounted the obvious difficulty by engaging several interpreters, one for each important language, who explain in advance the gist of the subtitles. Each one is given five minutes for his turn.

XLII

INDUSTRIAL USES OF THE MOTION PICTURE

THE most striking feature about the motion picture is its versatility.

We have all to begin once, if we are to succeed in life, and hardest of all is selecting a congenial vocation. Many a young man is like driftwood; he simply enters a trade without knowing in the least whether or not it will prove to his liking. After a few months he is through and tries another job. All this valuable time is wasted and the youth gets discouraged before he has hardly begun, yet if he could be but shown beforehand the inner workings of the trades in which he is interested, he could easily select the one for which he is best adapted, without the slightest misstep.

The motion picture, appealing as it does to the eye, is the most perfect teacher extant. This medium of training need not be confined to any particular trade, though,

of course, those that readily lend themselves to visualized treatment prove the most effective.

The Bureau of Commercial Economics has the subject under consideration, and, if plans formulate, trade-teaching films will be shown in such places as public institutions, schools, missions, settlement houses, parks and playgrounds. The expenses will be provided by endowment funds and annuities.

The Carnegie Institute of Technology, Pittsburgh, Pennsylvania, teaches the steel industry by motion pictures. You may judge how completely the subject is covered, by the title of the pictures: "From Iron Ore to Finished Steel." The series first takes us to the Meseba district of Minnesota, where the largest ore mine, "Hell Rust," is situated. We are shown the mammoth steam-shovels digging ore, which is shipped on large freighters at Duluth and unloaded at Conneaut, Ohio. After this a visit is paid to Farrell, Pennsylvania, and the works of the United States Steel Corporation visited. Then follow all the details of steel-making, as well as the by-products.

The schedule arranged by the College of Mechanical and Electrical Engineering,

Lexington, Kentucky, for its motion-picture course includes the following subjects: "The Natural Resources of the Canadian Rocky Mountains," "The Construction and Operation of the Panama Canal," "Electrification of the Butte, Anaconda & Pacific Railroad," "Motor Construction and Direct Motor Drive," "Schenectady Works of the General Electric Company," "Pittsfield Works of the General Electric Company," "Manufacture of Curtis Steam-turbines," "Mining of Ore," "Making Wire and Wire Fencing," "Manufacture of Pipe Tubes and Pipe Fittings," "Use of Concrete in Road-making," "Manufacture of Steel, Tin Plate and Tin Products," "America in the Making," "Playground and Welfare Work," "Carnegie Steel Company," "Welfare Work in Mining Districts."

The Prussian Ministry of Education, before the war, introduced the motion picture as an instructor in the high schools. One of the lectures given by Herr Kessner, the constructional engineer at the Royal High Technical School of Charlottenburg, dealt with "The World Power of Iron." The films accompanying same were taken in the Krupp works.

Films have also been taken of the steelworks of William Jessop & Sons, of Sheffield, England, and as this concern manufactures everything from pen nibs to huge castings for battleships, much ground is covered. The pictures proved highly instructive to members of the Bradford Engineering Society, when exhibited in connection with a lecture.

Architecture has been extensively dealt with in Great Britain by the Architecture Association. The film-lecture course comprises the following subjects: process of making hand-made bricks, the quarrying and working of Portland stone, manufacture of a ferro-concrete pile, complete operation of making a door, method of producing fibrous plaster work.

The experiences of the association may be summarized as follows:

"(1) It appears to us that, in order to be of use in a technical institution, the films must be specially prepared for the purpose, and with a full recognition of educational requirements. They must comply with the fundamental requirement that, where industrial operations are shown, the whole of the process shall be displayed in a manner that

will make clear to the student the exact nature of the technical operations.

"(2) The pictures must be supplemented by a technical description given by a person expert in the subject that is being illustrated.

"(3) The film must be shown under conditions that will enable it to be stopped when required, so that where the subject calls for a fuller explanation, this can be given.

"(4) The views must have a serious scientific or technical interest. A film which had been prepared solely to entertain or amuse would be quite unsuitable for use in a technical institute.

"We beg to report that films complying with the four conditions named are available, and could be suitably used for facilitating the technical study of building-trades work, mechanical engineering, electrical engineering, commerce and natural science."

The European war has presented its labor troubles, particularly in regard to finding useful occupations for cripples. Frank B. Gilbreth, the efficiency expert, has not been idle.

As all cripples can not be classified in

the same group, Mr. Gilbreth is guided by the following considerations: Has the man been engaged in mental work? If so, all is well. Has the man been accustomed to physical labor? If his limbs prevent him continuing, he can be put to mental work. Is the latter incapable of mental work? If such is the case, the man must be put to some light manual occupation.

His films show men engaged in various forms of physical labor, and the motions made in performing each operation are shown in detail. This makes it possible to determine the facilities demanded of the human limbs, and the cripple, in due time, can be trained to use his artificial limbs to the same advantage.

The Bay State Street Railway Company now shows a series of films to the motormen and conductors in their employ, at the various depots. In one film, motormen are instructed how to operate a car properly. This, in the main, is intended for the new employee, but even the veteran can pick up wrinkles. A third picture demonstrates the right manner in which to apply first aid to injured passengers. These pictures were produced to serve two purposes. One was

to reduce the number of injuries to the traveling public, which would result in a corresponding decrease in the number of expensive claims they have to meet. At the same time it is believed that there will be less need to incur expense in repairing cars and other rolling stock, when fewer accidents prevail.

The motion picture has also been found invaluable as a nerve test for chauffeurs and others who have control of passenger and traffic vehicles. The driver sits in the car at the gearing-wheel in a darkened hall. The automobile is a stationary one, but a contrivance makes it appear as though it is proceeding at full speed. As the driver faces the screen, he first sees a child running in his direction. At the crossing a wagon appears and it looks as if a collision is unavoidable. A pile of rock now suddenly appears, and the driver is set the extremely difficult task of acting as if the situation occurred in reality. After this test it is apparent whether or not his nerves are defective. The films invented by Professor Munsterberg are so lifelike that, on one occasion, a dog attacked the screen and tore it to shreds.

EFFICIENCY IN MANUFACTURING PLANTS.

The Vickers Company, who possess the largest steel-plant in England, have undertaken the production of motion pictures on an imposing scale. They have three objects in view—to conduct experiments, to present mechanical processes, and also to demonstrate in a clear manner the workings of complicated or cumbersome machines. Several of the subjects have been included in the "Britain Prepared" film, and, although the naval censor has deleted some of the confidential details, it is nevertheless interesting to the layman to see the various munitions of war, such as guns, shells, engines, submarines and battleships, in the making.

The motion picture is used to show the result of projectiles on armor-plate, but here it has been necessary to speed up the exposure, for an explosion may only consume five one-thousandths part of a second. For this reason the Bull system, which produces from nine to fifty thousand exposures per second instead of the usual sixteen, has been found of the utmost value.

Dr. Hanz Goetz, speaking before the

German Engineers' Society, said: "By illumulating the moving object with regularly succeeding electric sparks, and photographing on a film moving continuously rather than intermittently, it was found possible to increase the number of exposures to two thousand per second. For engineering purposes much higher frequencies had to be used than Bull obtained, and the apparatus employed differed from his in not using a mechanical interrupter. In series with the illumulating spark gap was a large condenser, and in parallel with it a small one; the large condenser is charged by an induction machine, and when it is discharged the small condenser is alternately charged and discharged across the gap."

In connection with the above, Keith Jones, an Englishman, has invented a device which enables dynamite explosions to be filmed as near as twenty-five yards. The camera, however, is controlled by electricity, and the operator, believing in safety first, stations himself fully a mile away.

Once, when a machine gun was being tried out by the film, a close-up appeared of its mechanism, and the see'ers noticed that every time an empty cartridge-case was

ejected, specks of dust appeared. For a time the experts were puzzled, but they found that something was amiss with the cartridge, which resulted in the bullet lacking the powerful start. The fault was hereinafter remedied.

A manufacturer may have tried timing his workmen on a given operation, but it is exceedingly doubtful whether he has obtained complete satisfaction, as no two mechanics work alike. One may be as skilled as the other, and it is therefore hard to discover the incompetents. The stop-watch method is destructive because there is no way of sifting out the underlying faults.

The only constructive system yet discovered is micro-motion cinematography. The manufacturer, in trying out this method, must make film tests of each of his employees.

Perhaps the one disadvantage is that the mechanic is aware that he is being tested, but this can not be avoided, and I rather doubt whether it is a disadvantage after all. You see, the man will put forth his best efforts, and it will then be revealed whether or not he is efficient. As there are sixteen separate pictures, or "frames," as they are

technically named, to each foot of film, and each "frame" represents an exposure of one-thirty-second part of a second, sixteen separate motions are recorded each half of a second. Two clocks are necessary if the experiments are to prove successful. One should be an ordinary alarm-clock, the other of the made-to-order kind. Perhaps the timepiece invented by Frank B. Gilbreth, of New York, is the most suitable. Mr. Gilbreth's clock only contains one hand, which covers the dial every six seconds. The time may be told down to one-thousandth part of a minute. The dial contains one hundred parts, each of which is further separated into one-fifth divisions.

The alarm-clock serves to show the time taken in completing the job, but the latter enables each motion to be timed. These clocks should be placed on a table or bench so that they are filmed at close range. In order to give the workman a chance to make good, all his tools should be at his elbow—preferably on a rack above.

The New England Butt Company, of Providence, Rhode Island, have found the micro-study plan thoroughly dependable; in fact, I might go so far as to cite an actual

instance. One operation, at this braiding factory, formerly consuming thirty-seven and a half minutes, is now performed by a workman in eight and a half minutes.

In most tests, the efficiency engineer, after the films have been developed, has studied each "frame" through a magnifying-glass. He has then been able to detect the difference between a necessary motion and a useless one. This is a departure in viewing motion pictures, but the advantage is that each movement may be thoroughly studied, whereas, were the film run off the screen in the ordinary way, it would not be possible to stop it in any particular place. Each "frame" is but one inch wide and three-fourths of an inch in height, and it is the showing of these in rapid succession which produces the motion effect. When the complete film is projected on the screen the objects are magnified several thousand times.

Packing is an art, and it has been suggested by Consul James Oliver Laing, of Karachi, that motion pictures of packing merchandise for export would prove a valuable object-lesson. To quote Mr. Laing: "If single photographs of a smashed packing-case, or a lighter full of goods

being landed, or other illustrations, are good, a picture showing how the case came to be smashed, or how the goods were put into or taken out of the lighter, would be better. Every one knows that cases are smashed and a single photograph shows only the result, which any shipper can imagine.

"If, however, a shipper of flour, let us say, could see a lot of Levantine stevedores swing a loop full of sacks over the side of the ship and let it down on the run to a flatboat bobbing about in the waves, the sight of what happens when the boat rises suddenly to meet several hundred pounds of muslin-sacked flour would be an education to the shipper. If an American furniture merchant could see a moving picture of his packing-cases dropped from a cart-tail to a stone floor by a gang of Maltese dockers, he would appreciate the cause and effect."

Another problem confronting the average employer of skilled labor is interesting the wives in their husbands' work, for the women, through lack of understanding, grow discontented when their husbands have to work overtime. No man can be efficient if his wife is not interested in his work, and the Packard Motor Car Company have hit

upon the motion picture. A film is devoted to each manufacturing process, and the pictures are not so technical as to be above the heads of the women, whose sympathetic instinct is appealed to by the human-interest touches.

XLIII

ENTERTAINING EMPLOYEES BY MOTION PICTURES

THE motion picture is here to stay. There is no question about that, because the form of entertainment is decidedly distinctive in character.

And the individual qualities come to the surface when we put the versatility of the photoplay to its truest test, leaving all other entertainments hopelessly in the rear.

Knowing its many possibilities, it is not surprising that it is unsurpassed for promoting good will between employer and employee. The laboring classes are the staunchest supporters of the photoplay, and no better way could be devised of keeping men thoroughly contented.

The motion picture requires little mental effort on the part of the men, who, after a hard day's work, are not in a fit condition to give it. The men never find the entertainment monotonous, as films are very versatile

in character and the program can be changed as frequently as desired.

Churches, schools and clubs have admirably surmounted the theater problem without making material alterations in their existing buildings. Then, again, in the pioneer days of exhibiting, the showman was not above renting an empty store and converting it into a regular photoplay show.

Employees, accustomed as they are to roughing it, will not expect to view the films amid elaborate surroundings. With them the photoplays are the goods, so any building available that combines simplicity with rough and ready comfort is satisfactory.

Maybe there is some building on the plant which can be fixed up as a motion-picture show at nights. This should be lofty, provided with several exits, be well ventilated and heated. The place need not be wide, provided it is long enough to accommodate the requisite number. It is not enough that there is room for all; there should be a seat for every person, for nothing is more annoying to a tired worker than to have to stand during the performance; it kills half the enjoyment.

The enterprising exhibitor, during the

hot months, runs an airdrome. If the climatic conditions permit this being done during most of the year, then matters are made much easier and less expensive. All that has to be done is to install seats on a vacant lot, rig up the screen and place the operating-booth in position. It is advisable, however, to have an inside building available, so as to take care of the rainy and cold nights.

If the above-mentioned circumstances are not favorable, I would recommend that you have a frame building erected. When obtaining the services of an architect, be sure that he has a chat with a friendly exhibitor beforehand, on projection, for the latter can only be perfected when its limitations are borne in mind.

The outside is the easiest part of inaugurating a motion-picture show. It is the "filling in," where the troubles and costs pile up in profusion.

The first item of importance is the projection machine, the prices of which range from $250 to $300.

The authorities in various parts of the country insist upon the projection machine being enclosed in a fireproof booth, as, if

there is an outbreak of fire, it can not spread further. Here an expense of $65 is involved, but it is worth it in the interests of "safety first." This booth, made of galvanized iron, gives the operator plenty of room in which to work, and is shipped in parts, the whole easily being set up with nuts and bolts.

Carbons are needed to run the projector, and it is cheaper to buy these by the case, which contains one thousand. They cost from $17 to $44, but prices vary according to market conditions.

The next important link is the screen. In the days gone by a table-cloth or bed-sheet has been used, but science has come to the rescue, and now there are screens and screens, and to obtain the best results it will be necessary to pay about $1.50 per foot for the material.

For the seating accommodation I would recommend opera chairs. These are made in many grades, but I do not think you can do better than purchase those of a kind which will stand hard wear.

Without music, motion pictures are deprived of much of their charm, and, while an orchestra of several pieces is best a

single, ordinary piano is a satisfactory makeshift.

The best photoplays on the market may be shown, but if they flicker, get out of focus, and breaks occur quite often, you stand a good chance of getting the goats of the spectators.

This means having to secure the services of a competent operator, who demands from fifteen to twenty dollars per week for an eight-hour day.

If, however, there is a man on the staff who is well versed in electricity, he is in the position of the photographer who takes up cinematography. He is acquainted with the fundamentals of his craft, and it is therefore easy for him to become an expert operator.

If he is the right sort of man, he will not object to doing two or three hours' overtime of an evening, and perhaps it can be arranged for his hours at his regular job to be curtailed in order to ease any strain that might occur.

There remains one connecting link—the light by which to throw the pictures on the screen. If a power plant is available, the current from same can be used.

Have the operator focus the projection machine exactly in the middle of the screen, not an inch to the right or the left, or an inch below or above. If this is not attended to, no matter in what advantageous position a spectator sits he will either have to hold his head up high or else the players in the picture appear unnaturally long and slim. The rays of light take a straight path, and if they are compelled to turn aside, a peculiar, annoying effect is produced.

In selecting suitable lens, the size of building, make of projection machine, the length and height of screen and the distance from the operating-booth to the screen must be taken into consideration. It is false economy to purchase cheap lens, and when ordering always furnish the supply firm with the foregoing particulars, as they can then execute your orders intelligently.

Once the operator gets acquainted with the various makes of films he will discover that there is no standard perforation gauge. This results in the film jumping the sprockets, and many breaks.

Carelessness, however, is sometimes responsible for these defects, and the operator should make this his creed:

"On receiving the films I will inspect them for breaks, which I will repair.

"Every time the film leaves the sprockets I will halt the projector in order to set it right.

"When stopping the machine I will throw off the switch.

"When rewinding the films as through with, it will not be my fault that they are scratched, thereby shortening their life. I shall carefully but firmly exert a pressure against the disks of each single reel I am in the process of unwinding. I shall find it evenly wound and no damage done despite the speed at which I have proceeded."

The standard speed at which pictures are projected is sixteen "frames" to the second. There are sixteen of these "frames," otherwise tiny pictures, to each foot of film, and each reel takes about fifteen minutes to unspool. If projection is faster, things in the films move at a rapid, mechanical pace, while explanatory matter is snatched off before it can be grasped.

The operator must be provided with a tool outfit, which should include cement for mending broken films, a file for sharpening carbons, lugs, reels and machine oil.

The three chief distributing organizations, General, Mutual and Universal, operate a string of exchanges throughout the country, and between them release mostly short productions weekly. The producers marketing their wares under these factions receive ten cents per foot for each print they supply, consequently every reel costs the exchange $100. It would be out of the question to show a film for a single day on these terms, so it is hired out to a bunch of theaters. The man who scures first-run service pays the highest price, but even then it amounts to only a proportion of the original price. As the age of a film increases, the rental decreases, until it can be hired for as low as one dollar per day. Even at this stage it is generally in good condition.

The service has to be contracted and paid for in advance, the films being shipped as required, and reshipped, at the expiration of the hiring term, to the next theater on the list.

There is also a bunch of concerns that exclusively handle special features. They are the de luxe productions of the photoplay world, in from five to eight reels, starring a prominent photoplayer or stage favorite

in an adaptation from some popular play or novel.

The producers spend more time, labor and expense on these pictures, consequently charge correspondingly high for same. To secure the first run of a feature of this kind fifty dollars per day is not considered high. It is best to try out the regular service before experimenting on special feature stuff.

I now come to the actual running of the show, and, naturally, the times and days of the week on which the employees are entertained are governed by the circumstances.

Presuming there are one thousand employees and only half of them can be accommodated at one time, it would be advisable to give two performances of an evening instead of spreading them over two consecutive evenings, in which case film hire will cost twice as much.

XLIV

SHOOTING AT THE FILM

MANY wealthy sportsmen now prefer to "hunt" with a motion-picture camera. Whether it be the king of the jungle or the humble rabbit, there is no suggestion of posing in the pictures obtained, which are therefore unsurpassed for realism. All this is what must have inspired inventors to approach as near to the real thing as the automatic target can go. The results have not been perfect by any means.

Of the three principal methods in vogue, life targets undoubtedly possess the best all-round qualities. Attached to a roller is a long portion of tough, white paper. This paper passes over a cylinder, after which it travels backwards and winds itself 'round a second cylinder, located near the roller. This doubles the paper, and another sheet of paper is fastened securely between and across. When the marksman's shot hits the screen target, a ratchet, controlled by elec-

tricity, covers half of the shot-hole in order to repair the injury. The marksman has no need to investigate the effect of each shot, for the picture stops automatically just as soon as the bullet hits the target. At the back of the screen appears a brilliant light in the exact spot struck by the cartridge. The shot also stops the film for about two seconds, during which time the marksman can judge his results. After this the film is set in motion, when the telltale light disappears.

It has not been found practical to permit an ordinary film to come to a standstill before it has been run off, because there is the risk of the heated projecting machine causing the celluloid strip to catch fire. But no such danger exists with the life target, as a patented cold-air blast insures perfect safety. Sand-bags are placed behind the screen to prevent the bullets going astray.

The screen used for flash targets is manufactured of steel in order to prevent the bullets from riddling the screen. The lighting feature here is the same as for life targets. It is possible for two or more persons to simultaneously fire and each marksman be able to trace his shots. To do

this each marksman employs bullets which produce flashes of a different color.

A Scotch invention which has not yet been christened makes it possible to install a miniature screen and projection machine in a cellar or dark room. The electric lamps act in the capacity of weapons. The pressing of the trigger flashes a spot-light on the screen in one or more colors, according to the number playing.

It may be well to now set forth the shortcomings of film rifle-shooting from the rifle-shot's standpoint. The chief drawback is the confined area in which the marksman has to work. The maximum distance from which he can fire at the motion-picture screen effectively is from seventy-five to one hundred feet. To a marksman accustomed to a range up to one thousand feet, this is a serious disadvantage.

No one has yet solved the problem of vision from a greater distance. If one sits a few feet away from the screen, the pictures appear so large and flat that one develops eye-strain. The results would be likewise disappointing if one attempted to fire at the screen from a distance of one hundred feet and up. The film would flicker

to such an extent that it is extremely doubtful whether the image could be plainly discerned.

The number of photoplay theaters in this country which have a longer throw than two hundred feet may be counted on the fingers of one's hands, and this has only been made possible by consuming more electric current, using more powerful lens and a larger screen.

The rifleman must also take up a straight position, for he can not assume any other angle.

A recently invented device films pictures of a bullet's movements in motion at the rapid rate of one hundred thousand per second. The test was confined to a radius of ten inches, and the bullet traversed the distance so swiftly that only seventy-two pictures were necessary. What makes the accomplishment remarkable is that it pierced a thin piece of wood. No unusual developments were noticed until the bullet had nearly completed its journey, when ever-so-small splinters of wood began to fly about. When it completed the trip, the strip gave way completely.

As yet there are no camera shutters that

possess this record rate of revolution, and the difficulty was admirably surmounted by fixing a contrivance to the camera that was capable of manufacturing electric sparks to the extent of one hundred thousand to the second. A wheel about three feet in circumference was the resting-place for the film. When the bullet had been fired, the wheel turned 'round at nine thousand times per minute and a spark flashed to record the exposure of every picture.

Shooting at the film ranks next best to shooting the object in the flesh. There is no killing for the sake of killing, while the life of the hunter is never in danger. It also succeeds in maintaining the marksman's alertness up to concert pitch, and in snap-shooting the film is even better.

XLV

TEACHING AGRICULTURE BY MOTION PICTURES

THE idea of teaching agriculture by motion pictures originated with two college students. They had the courage of their convictions, so they outlined their plans to Prof. Thomas Nixon, of Harvard, who, with the approval of the Department of Agriculture, formed the Rural Organization Service.

After this, Assistant Secretary Galloway of the Department of Agriculture organized a committee, the duties of which were to make films for experimental purposes, review scenarios, make recommendations and co-ordinate the motion-picture work.

The Section of Illustration, Division of Publication, was accordingly provided with the necessary equipment for taking, developing and exhibiting films. The committee gets busy after the chief of any division, bureau or independent office decides in what

way motion pictures can assist his work. The proposition is passed upon by the committee, and if they approve of it they hand it over to the Assistant Secretary, who renders the final decision.

The cost is charged to the bureau, division or office using the films. The funds from these sources, however, have not proven sufficient to enable more than a few prints to be taken from each negative. This has greatly curtailed the activities of the department, which has been obliged to turn away requests from educational and charitable institutions. It has, in fact, been a hard enough problem to supply the needs of the lecturers attached to the department.

The department, during its first year of operation, produced thirty different subjects, comprising thirty-one reels. These educationals are unlike the efforts of the regular photoplay producers. The latter, for instance, show you the actual growth of a plant, from a seedling to a sturdy plant, within a few minutes. The department, however, disapproves of this "wizardry," so they cut out the actual growing. Instead, the seedling is shown, as in real life, without

a movement, and when it has grown a little more, a subtitle appears to explain the lapse of time.

These films are shown at the State colleges as well as at farmers' institutes and county fairs.

In many rural communities, however, electricity is not available, and, as the present equipment of the department prevents any other generating power being employed to operate the projector, it has not been possible to reach all farmers.

The department is endeavoring to surmount the difficulty, and if their experiments are successful, a portable lighting outfit will be substituted.

At the time our Government adopted the motion picture, Canada began to grow interested, but the one and only Province that got to the up-and-doing stage was Ontario.

Canada is still in a state of development, consequently the number of settlers continues. Many of these know practically nothing about scientific farming, and the Ontario Department of Agriculture had a series of films produced so as to dispense the necessary knowledge. These pictures

depicted the most important phases of modern agriculture.

Operators tour the farmers' institutes throughout the Province, and lecture to the films as they are thrown on the screen.

XLVI

LIVE STOCK IN MOTION PICTURES

WERE I asked to name the most versatile thing within our midst, I should say, "The motion picture," without the slightest hesitation.

The method by which the Vilette Slaughter-house, of Paris, analyzes its meat, is to take films of live stock immediately after same has been slaughtered. The pictures are then exhibited before sanitary inspectors, cattle-dealers and butchers, who can readily determine diseased meat by the bacteria which the film reveals.

Another use for the motion picture has been discovered by the Bureau of Animal Industry of the United States Department of Agriculture. The bureau has had a film produced under the supervision of Mr. Downing, which deals with the well-known "Brooks-Bacon," cured in Brooks County, Georgia.

This film, so I am given to understand,

will be shown in rural districts in conjunction with a lecture, the aim being to give pointers to farmers on this famous industry.

America can derive a wrinkle from Scotland. At a recent show of the Highland Agriculture Society, sheep-farmers had an opportunity of seeing a film dealing with the packing of wool.

The Agricultural College of North Dakota is also doing good work in enlisting the aid of the motion picture in connection with its lecture course, one of the films pertaining, as it does, to the prevention of disease to animals.

XLVII

USING THE MOVIES UNDER THE SEA

WHEN the wonderful Williamson submarine-tube invention was heralded, nine out of ten folks thought that it was destined to remain a scientific toy, but they were wrong, entirely wrong.

The inventors were more than mere amusement purveyors, for they invaded new fields with a practical object in view, their efforts meeting with success.

In the first film taken off the Bahama Islands they located a Civil War blockade-runner, which had vainly tried to escape the penalties of war. The ship was found at a depth of fifty feet, and George Williamson decided to act as a diver in order to put his brain-child to a new use. He was loaned a diving-suit by the local government and investigated the wreck while the camera men filmed all his movements. He came across pieces of eight, cannon and other salvage, all of which he dispatched to the

surface by means of a wire basket attached to the end of a rope.

As the experiment was successful, it occurred to Mr. Williamson that he might recover some of the wealth which has found a watery grave. In speaking of his plans, he said: "Some say there is more gold at the bottom of the ocean than there is in circulation; gold and silver have been sinking in the sea for centuries; millions a year going down, and none coming up again. We think we have a method of getting much of this treasure which is in not too deep water."

The Williamson brothers made arrangements to salve the silver bars said to be on the "Mereda," which sank off the Virginian coast. They also intend to raise the valuables that went down in the "Empress of Ireland," and will take films of their efforts.

When their feature educational was shown before a distinguished audience at the U. S. National Museum in Washington, the harbor men and steamship officials were convinced that the invention could be of considerable assistance in investigating the supports of wharfs and piers and dangerous

rocks and reefs little known or unknown to navigators.

On the other hand, scientists agree that it can bring much to light on which only superficial knowledge exists. They were delighted to discover a new fish in the picture, which was promptly named "Old Glory," because of the colored stripes on its body.

If I am not mistaken, much will be heard of Ernest and George Williamson, for they have made an auspicious beginning.

XLVIII

MOTION PICTURES AS AN AID TO POLITICS

THE motion picture is a highly efficient political agent. When Wilson ran for President in 1912, the National Democratic Committee arranged for a film to be produced as a campaign booster. The plot featured Wilson, and, as the production was a convincing one, it undoubtedly helped to make Wilson what he is to-day.

Some time ago the Progressive party announced plans for its motion-picture campaign. The aim of each film was to present Progressive doctrines as applied to present-day social evils.

The Socialist party is represented in motion pictures by "From Dusk to Dawn," an industrial drama. This has been witnessed by large Sunday audiences throughout the country, in conjunction with lectures by prominent socialists.

Senator Penrose conducted his political

campaign for re-election in Pennsylvania by a reel, which was shown at a number of theaters throughout the State. On the film he addresses workingmen, and walks along the corridors of the Capitol at Washington.

Raymond Robins, the Illinois Progressive candidate for United States Senator, held a meeting at the Lyric Theater, Belleville, where he gave a free program of selected photoplays.

When William B. McKinley, the traction magnate, was re-elected to Congress, the Southern Illinois newspapers declared that the motion picture was directly responsible for his success.

Recently an ambitious motion-picture company decided to produce an educational subject showing the Senators at work in the Senate Chamber at the Capitol. The camera man was allowed by the sergeant-at-arms to work just before the opening of the regular session. He filmed the prayer offered by the chaplain, the introduction of bills by pages, Senate press gallery and pages at play. It afterward transpired that Vice-President Marshall had not granted the necessary permission, although the photographer said he had. It is perhaps significant

that the film has never seen the light of day.

Senator Stone finds the motion picture an excellent mental tonic. He is a frequent visitor to the Washington theaters. So much so, in fact, that the sergeant-at-arms generally knows where to locate the Missouri Senator for a roll-call.

When Mayor Johnson, of Gary, ran for Governor of Indiana he had a film taken to prove his popularity among townsfolk. He also expressed a keen desire to "star" in a regular drama as an efficient financier, which he asserts is Indiana's greatest need.

A regular photoplay proved the turning-point in a recent traction franchise fight at Cincinnati, Ohio. "The Man of the Hour," featuring Robert Warwick, deals with the young mayor of New York City, who is requested to sign a traction franchise bill. The mayor refuses, and instantly the political machine is put in motion, the mayor winning out in the end. At the time the photoplay was shown in Cincinnati the topic of the day was the local franchise bill. No photoplay was more lustily cheered by spectators, and the effect of same was shown at the Cincinnati election, the bosses being defeated.

William Sulzer, the ex-Governor of New York State, was "starred" in "The Governor's Boss." He was not prompted by artistic ambitions, which was perhaps as well, in view of his amateurish acting. The ex-Governor's one aim was to expose bossism, for the benefit of voters. The story, which was suggested by the play, "The Governor's Boss," was purely fictional.

There is a law in Michigan which forbids campaign cuts being beyond a certain size. Politicians discovered this only too well at a recent election, where Attorney-General Fellows announced that slides of the candidates, thrown on the screens of the local theaters, violated the primary law.

On one occasion the Louisville newspapers desired to judge what influence politics have upon photoplay-goers. The movie theaters maintained their customary impartial attitude and displayed slides of all candidates running for city offices. Each slide received applause mingled with hisses, which revealed that folks do not object to showing their political faith when there is little chance of same being recognized.

The taxpayers of Binghamton, New York, took the initiative in the 1915 munici-

pal election. They sought to know if they were going to have a fixed policy in regard to Sunday movies. The frank reply of Frank H. Truitt, the Republican candidate for mayor, was this: "Movie licenses should be issued for six days per week. Shows closed on Sundays."

In 1912 the National Woman's Suffrage Association co-operated with a motion-picture company to produce a special photoplay with special reference to the suffrage cause. The production was named "Votes for Women," in which several well-known suffragists appeared. The story brought home to the big city audiences the difficulties which the suffragists experience in canvassing votes in the small towns and outlying districts.

Mrs. Pankhurst, during her visit to America in 1913, appeared in a propaganda photoplay entitled "What Eighty Million Women Want." Mrs. Harriet Stanton Blatch, the well-known president of the Woman's Political Union, also made her motion-picture *debut*. The story told of a political fight in New York City during the primaries. The Woman's Political Union does everything within its power to extin-

guish Kelly, the corrupt political boss, and finally succeeds. At every theater where the picture was shown, suffragists addressed the audience.

Another publicity stunt which helped the suffrage cause was the appearance of Mrs. Helen Robinson, the only woman Senator, in an installment of the "Our Mutual Girl" serial, negotiations for which were transacted through Miss Jean Parker, the noted artist. Several prominent suffragists appeared with the Colorado Senatress.

The Chicago Woman's Citizenship Committees, during the 1914 elections, utilized motion pictures to educate prospective men and women voters, particularly the latter. In the film, women passed before the registering-desk and afterward entered the polling-booths. The slogan of the picture was "Register on February 3," and it is calculated that seventy-five per cent. of the population was reached in this effective manner.

The year 1915 saw the advent of another propaganda production, this time put out by one of the regular producing companies in the ordinary way. "Your Girl and Mine" was shown under the auspices of the

local suffrage associations throughout the country. It was also favorably received in Canada, where it helped to raise funds for the Canadian Patriotic Fund, which cares for the wives of soldiers. Many converts to the cause were made.

In April, 1916, the Congressional Union for Woman's Suffrage decided to portray in a photoplay the actions of the House Judiciary Committee in handling the Susan B. Anthony Amendment for Woman Suffrage. The scenario was solicited from the general public, who had the option of writing a comedy, melodrama or detective story. The only stipulation was that neither Representative Webb, of North Carolina, nor Representative Carlin, of Virginia, must be made the hero of the story.

During the 1913 general elections in France, all the candidates posed before the motion-picture camera in attitudes which undoubtedly left good impressions upon prospective voters. The accommodating film made it no longer necessary for candidates to visit out-of-the-way parts of their constituencies. Instead, expert operators toured these districts with films of the candidates, who addressed likely voters on

celluloid, while extracts from their speeches were flashed on the film.

One candidate went even further. He had courage enough to dispense with street meetings altogether, and in their place hired a photoplay theater, to which he admitted prospective voters free of charge. The entertainment opened with two lively comedies, which put the audience in a receptive mood. A series of pictures, depicting incidents in the career of the candidate, followed. He was first of all seen conducting a meeting, shaking hands with the prefect and leaving in his motor-car. He was then shown assisting an old woman to load a bundle of wood on her donkey's back, indignantly declining to be bribed, and affectionately attending to an old man on a sick-bed. But he pulled the heart-strings of the spectators tightly when the last picture revealed him discreetly giving a bank-note to a poor man who had just been rendered homeless through a fire.

In England the advocates of tariff reform have realized the possibilities of the motion picture. Before the war, delegates made visits to towns, but, instead of explaining the advantages of being a Unionist by

the spoken word, they employed the film. In the picture, favorite actors impersonated Lloyd George, Asquith and Bonar Law, while dialogue subtitles helped to put over their arguments.

The Unionist party, on another occasion, discovered that the one and only effective way of reaching many folks in rural communities was by the traveling motion-picture show. The performances were given from the back of an auto-wagon, but audiences had first to listen to an eloquent address from the candidate's representative. The undertaking was educational, in that many aged folks saw the movies for the first time.

In 1912, at the time of the London County Council elections, one political party had fifty projection machines working on behalf of their candidates. The films screened by same at open-air meetings showed how London had changed for the better since they had come into power.

We have newspapers that support one political faith, but the unneutral motion-picture theater is a rarity. One exhibitor attempted it when running for a municipal office. He had his portrait thrown upon the

screen, accompanied by another relating to his qualifications. He was elected.

The last suffrage laws in Italy appealed to several million people who had not been entitled to vote before. It was no small task to teach them how to cast their ballots, so the aid of the motion picture was sought. Films were produced and exhibited to demonstrate how voting is done properly, again testifying how useful the motion picture is for political purposes.

XLIX

THE MOTION-PICTURE CRITIC

INCREDIBLE as it may seem, the motion picture is still regarded as a scientific toy by the daily press. New York is supposed to set the pace for the entire country, yet what do we find? Of the regular dailies, but one is making an honest attempt to criticize current photodrama attractions. True enough, there appear columns of film notes, which are contributed by the publicity departments of the photoplay manufacturers, but anything resembling the regular dramatic department is practically unknown.

When a newspaper does review a photoplay it dispatches its regular dramatic critic. He may be a competent man in his own particular sphere, but when he tackles the motion picture he at once betrays his ignorance. He will say, for instance, that "The Love Chief" was "produced" at the Blank theater, whereas he should have written

"presented." He is also fond of using the word "posed," when speaking of the actors. As any fan knows, once a photoplayer commences to pose, he is artificial. "Appeared" is a better word.

Speaking at a dinner in March, 1915, Arthur Brisbane, editor of the New York *Evening Journal,* said: "The success of the motion picture is based upon the stupidity and lack of intellectual development of the human race. I am one of the few living men who have never seen Mary Pickford or Charles Chaplin or Theda Bara or Miss Clarke. All I have seen is the 'Durbar' and Scott's South Pole pictures and 'Carmen,' which I couldn't escape because it was given in Mr. Hearst's house and I happened to be a guest there." When a great editor, such as Mr. Brisbane, permits prejudice to outweigh all other considerations, we begin to understand the apathy displayed by many newspaper editors toward the photoplay.

About two years before this speech was made, a well-known Chicago dramatic critic boasted that he had never seen a photoplay and did not wish to. Another dramatic critic made a fool of himself at a trade dinner when he mentioned a perfect, one-

reel photoplay which it had been his pleasure to see. Naturally, his listeners thought he alluded to the old Griffith-Biograph pictures. "Spartacus," he said, when asked the name. "A one-reeler?" queried his questioner. "You must have only seen the final reel!"

Why should not photoplays be criticized the same as stage productions? The popularity of the feature photoplay, and the resulting improvements effected in the producing end, entitle the silent drama to be judged on a plane by itself. Why should a review be hidden among the "legitimate" stuff and criticized from the angle of a speaking play? It is not fair to the public or the producer. The newspapers claim that the average photoplay is not worth criticizing—the story is too improbable to begin with. Let us grant that they are correct in their assumption. What is the critic for? Is it not his duty to dissect the faults and show how they may be remedied? Very well. He should be pleased because there is some useful work ahead of him. The producer has been accustomed to taking things easy because his efforts are sent out into the world without rebuffs. He may

obtain a few "roasts" from the trade papers, but these do not reach the public at large, so why should he worry? Once a newspaper engages a motion-picture critic, he will put the producers on their mettle.

The motion-picture critic has difficulties which he alone can appreciate. There are something like one hundred productions, of all lengths and descriptions, released weekly. To see the entire output would keep the critic more than busy during each of the seven days. Then, there are space considerations. Under such conditions as exist in the big city it would not be advisable to just take the features playing at the leading theaters in the business and shopping sections, for the many ordinary shows situated in various other parts of the town and suburbs would be missed entirely. The only fair way is a middle course. It will be presumed that the critic keeps in touch with the latest output, which knowledge should greatly assist him to decide which are the best six or twelve productions of the week, and these should be included on his viewing schedule. This was the policy adopted by Wid Gunning, when motion-picture critic of the New York *Evening Mail,* and proved

satisfactory in two ways. It prevented readers from seeing a lemon and was an incentive for manufacturers to turn out better productions.

The duties of the small-town motion-picture critic are considerably restricted. There are probably but two or three theaters in his territory, and all that is necessary is to review the star attraction of each house. If the theaters favor the daily change, as most do, it is impossible to review the features in time to be of service to the reader. For this reason I am inclined to the opinion that the small-town newspaper is best served by a syndicate service.

Where will the successful motion-picture critics come from? Many will be recruited from the photoplay-writing ranks because the first-hand experience thus gained will have taught them the qualities which go to the making of the perfect photoplay.

L

LAW PRACTICE BY MOTION PICTURES

YES, it is quite true that law will be practiced by the motion picture before many years have passed." This prediction, coming as it did from George Julian Houtain, the well-known Brooklyn attorney, was based on more than mere theory.

"I don't mind confessing that I spend many a pleasant evening at the photoplay theater," said Mr. Houtain, "and these visits have convinced me that there exist big possibilities for employing the film in my profession. Every time I think of the motion picture I see REALISM written in large letters.

"At the time the United Shoe Machinery Company was accused of effecting an unlawful monopoly, the case necessitated much technical knowledge which jurymen could hardly be expected to possess. Everything was therefore simplified by motion pictures, assisted with slides. The former showed

how the company's machines were operated and the various mechanical processes.

"The president of the company lectured to the films, which were projected on the wall of the court-room. When the 'bottoming' process, which is the most important detail of shoe manufacturing, was unfolded, the jurors were no longer in doubt that the United Company was guilty of the charge.

"In technical cases like the foregoing, educational films prove of great value, especially in regard to the small details which count for so much.

"A lawyer may use all the eloquence at his command, yet he can not help but realize his own limitations when up against the condemning motion-picture evidence of the motion picture. Permit me to cite an instance:

"A Glasgow (Scotland) family demanded several thousand dollars' compensation for injuries to their boy in a street-car accident, claiming that the lad had been crippled for life. The case went before the court and the rapid-transit company lost the day, for it certainly seemed feasible enough, since the boy was on crutches and had his feet bandaged in a sling.

"It happened, however, that one of the company's officials chanced to while away an idle hour at a motion-picture theater, in which he saw a topical film dealing with a local sports event. He was surprised to see the boy outdistancing his competitors, and as the race occurred some weeks after the accident, the company was enabled to lodge an appeal, winning the day.

"The boy, when he knew the game was up, admitted that he was as sound as any normal youngster.

"On the other hand, it is easy for the unscrupulous to use the motion picture for purposes of misrepresentation. I well remember reading about a case that took place in German Southwest Africa. A lonely and wealthy farmer, tired of remaining a bachelor, advertised in a German newspaper for a wife who was congenial and thoroughly domesticated. This ad caught the eye of a fortune-hunter, who had no other qualifications than a pretty face and a love of gaiety. She was not, however, without ingenuity, and to this end persuaded an actress friend to portray before the motion-picture camera her talents for domestic work. The prospective husband duly received a copy of the

film, and was instantly smitten with her, cabling sufficient money for the trip.

"When they came face to face he was angry at discovering that she was not the same girl as the one that had appeared in the film. He declined to have anything further to do with her, but the scheming woman sued for breach of promise, and the farmer won the day when the film revealed her deception to the judge. So, once again, the film brought the truth to light."

"Do you consider a knowledge of motion pictures will prove an advantage to the lawyer presenting evidence by same?" I asked.

"Indeed I do," Mr. Houtain replied. "The motion picture has brought many professions into being, and I am convinced that the motion-picture lawyer, when he arrives, will be well versed as to the technical side. With this knowledge he will be in a position to act to the best possible advantage on behalf of his client."

LI

AIDING CRIME DETECTION BY MOTION PICTURES

ARE you aware that the motion picture is assisting the detection of crime in America? Maybe you are not acquainted with its capabilities in this connection, so you will welcome being enlightened.

The motion picture is assisting the detection of crime, and some months ago Commissioner A. H. Wood, of the New York Police Department, took the first steps towards using motion pictures for increasing the efficiency of his department. He did this by applying to the Board of Estimate for a fund of $30,000.

While plans have not yet been put into operation, it is intended, among other things, to film the daily line-up at police headquarters. The close-ups of the burglars and pickpockets will be filed in the rogues' gallery.

A motion-picture camera will also prob-

ably be concealed inside a window facing saloons, street corners and other places frequented by thieves, gangsters and thugs.

A film may likewise be put to use in providing convincing evidence when there is reason to doubt the statements made by the witnesses.

Regular dramas exposing the methods of different types of criminals, and showing how they are brought to book, will be produced for the edification of young detectives. Only those concerned will be privileged to view these photoplays.

It may be recalled that a riot occurred about three years ago in Los Angeles. The rioters broke windows in a reckless manner, thought nothing of impeding the progress of trolley-cars, and even went so far as to fire their revolvers at inoffensive citizens.

The police had absolutely no evidence to bring specific charges home, but, as is often the case in such events, several motion-picture camera men were on the job. They took great risks to secure realistic views, and it was on the strength of these that the jury obtained the proof to pass sentences on the guilty parties.

I happen to know of a physician out in

Indiana whose nine-year-old daughter was kidnapped. He had the law set in motion, but all searching efforts proved futile. It occurred to the fond father to try motion pictures, so, with the co-operation of the police, hundreds of theaters were obliging enough to run a slide with his daughter's photograph as well as a brief description of her. If any spectator had seen the child, he was asked to get in touch with the police.

There recently came to light a case of blackmailing in a Pennsylvania town. A contractor was confident of securing a renewal of his contract with the municipal authorities, but the corrupt councilors demanded $10,000 for exercising their influence. The contractor, however, was clean, and hit upon an idea by which to nip their unscrupulousness in the bud.

He pretended to agree to their plan, and invited them to meet in the best-lighted room at the local hotel. The councilors fell, and took the wad of bills, which, by the way, were of the stage kind. Just before the crooks left he gently broke the news that a motion-picture camera had recorded their actions through a hole in the curtain.

Fearing exposure, the councilors deemed

it wise to play straight, so the man secured the contract without the bribe.

All these cases make effective replies to those misguided folks who maintain that motion pictures breed crime.

LII

MOTION PICTURES IN PRISONS

EVERY convict finds prison life monotonous, and this is just the thing that permits brooding, which often causes a convict to get his good-conduct record stained.

Motion pictures, however, can do much to promote a contented feeling, and it is of more than passing notice that several of our prisons should have realized this fact.

At the Minnesota State Prison, for instance, the prisoners attend the chapel on every Tuesday and Thursday evening for an hour, during which time they are entertained with motion pictures.

Moreover, the men may talk to each other about the entertainment. The Rev. J. S. Budlon, former chaplain, is responsible for the statement that the film is proving of great value as an educational force.

Naturally, it would not be the right thing to present before lawbreakers photoplays which portray such things as bank

robberies, cowboy rescues, Indian fights and stage-coach hold-ups, so slapstick comedies and refined dramas comprise the programs, which, needless to say, are much enjoyed.

That the introduction of motion pictures to the shut-ins has been beneficial is proven by the fact that, since they were inaugurated at the Colorado Penitentiary at Canon City, the average number of violations of the rules has decreased by four hundred.

Films could also be employed to teach convicts different trades and keep them in touch with the world's progress so that they will not be like Rip Van Winkles when they are free once more.

Some convicts serving life sentences make the acquaintance of the motion picture for the first time, and they are curious to know all the ins and outs of this twentieth-century wonder.

The recent move on the part of the motion-picture producing companies has been to take films of prison life. This presented a menace which Governor Dunne, of Illinois, was quick to perceive. He did not see why convicts should be exposed to the risk of being recognized at the photoplay theaters throughout the country and thus be

branded for life, so he stipulated that films should not be produced in the penitentiary unless it was impossible to recognize the convicts.

Strange to say, however, some of the inmates of the Clinton State Prison, Dannemore, New York, did not worry who saw them. Perhaps the photoplay acting bug or personal vanity got the better of them. Anyway, it is against the rule for a motion-picture photographer to film them with their faces towards the camera, so the operator had to set up his machine in the rear of the chapel, with the prisoners at the far end. When he turned the crank, some of the men turned round and smiled into the camera.

When permission was applied for to produce a motion picture of life in Joliet (Ills.) Prison, the warden refused permission. This news got around to the convicts, who prevailed upon him to allow the film producer to go ahead. The reason they gave was that they wanted the public to know how humanly treated they are.

LIII

MAKING THE MOTION PICTURE "ONE OF THE FAMILY"

TO many of us the motion picture means a refreshing conclusion to a trying day. It may therefore be considered as one of the bright sides of family life. A certain intimacy, however, is lacking, for motion pictures are discussed in a like manner in thousands of homes. We can not help feeling that they are public property, but how differently do we regard family photographs, which we treasure, and we are careful to whom we distribute same.

Since we are such ardent admirers of the motion picture, we should make it "one of the family." The latest development is film motion portraiture, which high-class photographers are specializing in.

Were you to be "registered" before the exacting lens of the motion-picture camera for eight minutes, no less than 7,680 separate portraits would be taken at the rate of

sixteen per second. Each photograph would be a momentary record of the sitter's face, and not one facial expression would be lost. On the screen you would be under the eye of the spectator for eight minutes. Each of the 7,680 photographs would not be a good likeness, but it would be the whole number projected in rapid succession that would give the faithful picture. You can retouch and fake a photograph in any way you may wish, but you can not tamper with a film. In fact, the only way is to do the faking beforehand by make-up and this would give the game away, for the motion-picture camera hides nothing.

Who would not dearly love to have a permanent record of all the quaint gestures and poses that make a baby so adorable? As he grows older these are lost to us, but if on every birthday he was to pose before the camera to the extent of ten feet of film, we would be able to trace every stage of his childhood. What an appropriate coming-of-age present it would make, too! Children can be shown indulging in their favorite pastimes and playing with their pets. As children are born photoplay actors, they require comparatively little coaching.

Both Siegmund Lubin, the well-known photoplay producer, and William Hearst, the newspaper proprietor, to name but two, are preserving motion pictures of their offspring until they are grown up.

A wedding comes but once, and often the only reminder of it is a group photograph. As a French photographer advertised: "Nuptual Cinema. To engaged persons: Do you wish to preserve a vivid, living recollection of the happiest day of your life? Have a film photographed of the ceremony (civil or religious) of your wedding, and in after years you will be able to see yourselves on the screen—young, loving, full of hope for the future."

The filming of the actual wedding is seldom done. Instead, a private rehearsal is arranged, as the photographical conditions render it extremely difficult to record the ceremony satisfactorily in a church or home. Weather conditions may result in indistinct street scenes. Then there are delays which may cause more film to be exposed and add considerably to the expense.

At a rehearsal, however, everything generally passes off without a hitch. The

cinematographer explains in detail beforehand just how he wishes the ceremony to be performed. This will be staged at his studio in a scene to represent the interior of a home or church.

Champ Clark, the well-known politician, for instance, had the wedding of his daughter Genevieve, filmed, so that his family might always hark back to it.

One pair I know, who married in 1909, entrust their wedding film to the care of their bank for 364 days during the year. On each anniversary of their marriage they arrange a private exhibition of the film, to which they invite their friends.

Another source of satisfaction is when one of the contracting parties passes away. Among the passengers on the last voyage of the ill-fated "Titanic" were Mary Farquharson and Daniel Marvin, newly married, on their honeymoon. The husband went down with the steamer, but the wife's grief was somewhat lessened because she had a film of the wedding ceremony.

Other occasions when films might be taken are birthdays and other family events and social gatherings. We should find many faults in ourselves which we did not before

believe existed. We would be able to correct mannerisms in deportment and speech. Perhaps we do not dress correctly. We would notice that, too, so the film can be as useful as it is entertaining.

LIV

WRITING A LOCAL PHOTOPLAY

PHOTOPLAY writing is a bug and few people are able to resist it. All aspire to see their brain-children on the screen, but in ninety-nine cases out of a hundred the cherished ambition is never realized. There are something like one hundred photoplays produced weekly by the regular producers, and as the majority of these are the efforts of staff writers, the field for the free-lance is, therefore, limited.

But if you put on a local photoplay, you can shut your eyes to these conditions.

Motion pictures have certain limitations. The first mistake is to take a subject that lends itself to better treatment as a short story. Such a play is one that requires a great deal of explanatory matter in order to get its meaning across the screen, by way of leaders and inserts. A certain number of these is allowed, but as a rule there should not be more than ten to fifteen to a one-reel

subject. Even this is a lot, and it is best that all written explanations be reduced to a minimum, and inserts used in preference to leaders.

The action should be kept in one country all the time. In fiction one has the whole world to roam in, but when it is realized that in a photoplay all such settings nearly always have to be taken on the spot in order to be effective, you can readily see that it is impossible in ordinary instances. Besides, the play will have no distinctive qualities unless it is set locally.

Characterization is now well developed in photoplays, and it must be remembered that these very traits have to be put over by the actions of the players.

Now to the details of scenario construction. The word "scenario" is given as the name of the photoplay manuscript. With most authors the first thing to do is to think out well, before putting pen to paper, an original and presentable idea; then the next move is to weave a plot around it. When you have carefully thought out the plot, you can go ahead and lay out the scenario scene by scene. To illustrate my meaning, I can not do better than give an actual example,

which will make clear to you the correct manner in which to set out a photoplay. There are five separate portions, as follows:

Title: This should be written around the main idea of the play, as it generally enables you to describe the play in an apt manner, while not at the same time giving too much away. There is an art in concocting a title that explains little, yet promises much. You should strive to get away from the conventional path by giving the scenario a catching title—something that will arrest the attention of everybody.

Cast of characters: Briefly explain the characteristics, etc., of each leading *role,* and include any extras that will be required. See that every character has his or her part to play, and cut out any that are not necessary for the successful presenting of the play. You may, of course, use those that lend "atmosphere" to the scenes.

Synopsis: Here you set forth the story of the play in a condensed form. You must avoid the narrative strain and write action instead—not the action that takes place in every scene, but that in the story itself.

List of scenes: You use this to summarize in a brief fashion all the scenes there are in a play.

Scenario proper: This is the most important detail of all, for you arrange the play scene by scene. Every time the camera is moved from one position to another constitutes the finish of one scene and the commencement of another. You should detail the "business" sufficiently to enable the players to grasp fully the possibilities of the play. Leaders and inserts should break in where needed, and an exterior scene should be used when a person is traveling from one house to another, so as to impress upon spectators the fact that it is not the same house, for it is bad form for a player to "drop" from the first house into the second without fixing this detail in the minds of the audience.

Here is a sample scene:

Leader: The Same Evening.

Scene 2—Parlor-ranch. Flo seated, knitting; Dick enters; asks Flo to darn socks; Flo speaks indignantly, saying:

Leader: "I'm Not Your Hired Help."

Back to scene. Dick gets flustered under the snub; retreats to door; drops socks;

exits. Flo picks up socks; kisses them; smiles.

Do not introduce a lengthy scene unless its action is broken with explanatory matter, as otherwise spectators grow restless. What is going to happen with the gradual straightening of things should be left until the climax, and it improves a photoplay if the unexpected occurs, so that a surprise is sprung upon the audience. You should, in fact, work up the interest from the very start and keep it going until the conclusion of the play.

LV

ATTENDING TO THE ACTING

PHOTOPLAY acting is the hardest form of dramatic art extant. All the players who have been recruited from the theatrical stage admit it. The beginner, however, possesses an advantage in that he has nothing to unlearn.

There are, in the producing of a photoplay, several component parts which go to make up the whole, and, should one fall down, there will be a broken link in the chain, thus marring what would perhaps otherwise be an excellent picture.

When a director selects a player as an extra, which means a position in the regular stock company should he or she make good, he closely criticizes the face, the shape of which is the deciding factor.

As you will probably recruit some of your players from a local dramatic society, it is up to you to see that they discard their theatrical mannerisms. A photoplayer, in

order to convince, must act naturally, avoiding all meaningless gestures and movements. But one can not set a standard for all *roles*. If, for instance, an actor has to portray a man of the backwoods, he will adopt rough-and-ready methods. Should, however, he be a highbrow, there will be a decided repose in all of his actions.

There is a tendency on the part of the present-day director to draw hard-and-fast rules and have the players under him express their emotions in a stereotyped way. Everybody has an individuality, and to deprive him or her of this is a big mistake. Although the stars are allowed some latitude, there is a certain sameness in depicting the emotions. Such ones as fear, hate, sympathy, jealousy, surprise and determination are indicated by different shades of frowning.

You will discover, too, when practicing in a mirror, by laughing and smiling in different ways, that you will express joy, expectation, happiness and delight. But when you try out weeping in all its forms, some of the emotions you will show are grief, sadness and sympathy. There is also a knack of acquiring the right poise of the

body, and in this connection it is worth while picking up hints from the regular players.

To quote from "Making the Movies" (Macmillan): "The actor must be very cautious in the speed of his movements, for if he were to walk briskly before the camera, it would appear as a run on the film. Every second sixteen different pictures are recorded on the narrow strip of celluloid, and if the player does not want his walk to come out blurred, he must take good care not to travel faster than sixteen inches per second.

"The width of the stage by the lens of the camera is nine feet, in which narrow space a batch of players have to work together under cramped conditions. The breadth, however, can be greater as the length increases, but oftentimes important situations have to be acted through at close quarters.

"If the director is not careful, and the actors equally alert, the work of a player in the background will be concealed from view. So you will see that careful attention has to be given to the grouping."

LVI

COLORS EMPLOYED IN MAKE-UP

MAKE-UP in motion pictures is an art; indeed, a science. Were it possible to take all the scenes outdoors, it would not matter so much, but the electric lighting in interior sets is so powerful that if the face is not adequately made up it assumes a flat appearance.

The face, to be expressive, must have its features shown up conspicuously. The stage player is only seen by the audience from the other side of the footlights, and therefore heavy make-up is not an eyesore. The motion-picture actor, on the other hand, puts over his work within a few feet of the camera, which magnifies things so many times at close range that great skill is necessary if the make-up is not to be revealed to spectators.

You can not retouch the film in such a way that all faults are deftly covered up, for when you consider that there are sixteen

pictures, or "frames," to call them by their correct name, each 1 x ¾ inch, to every foot of film, you will readily realize that the task is out of the question.

There are players who err on the side of liberality, which policy may be advisable in some things, but certainly not in photoplay make-up.

Have you not seen a young player with a pair of black eyes? You must not imagine they have been received in a fistic contest, for too much make-up has been applied.

Colors have most peculiar effects when photographed under the glare of the arc-lights. The players, for instance, have to avoid rouge or any other color with a red tint, as red has the strange trick of photographing black on the screen. Rouge, however, is permitted on the lips, but only in a light quantity; much would make the mouth unusually black.

White is another color which is tabooed. This gives a chalky appearance, and the same is true of light blue.

The right colors, outside of the above-mentioned exceptions, are merely a matter of individual tastes, for the player can only master make-up by adapting it to his

features. I will give an instance of this. The player with a fair complexion seldom uses grease-paint at all. He finds that cold-cream with a dash of a light-brown powder screens effectively.

The player, however, possessing what I might term a medium complexion, uses either a yellow or dark-blue grease-paint after first applying cold-cream to the face, but, in order to prevent his face screening like a ball of grease, he covers it with a light-brown powder.

This make-up is applied to the face as well as the front and back of the neck.

To make the eyebrows come out prominently, the player usually employs a black eyebrow pencil, but some players prefer to use it on their eyelashes. This is a tedious and painful process.

However, should a player be taking a character part, he accentuates his features with a brown lining-pencil, but does not permit an indiscreet close-up to reveal these lines.

LVII

SECURING PERMISSION FOR LOCATIONS

MOTION pictures breathe the very essence of life, and this is where the motion-picture photographer has a chance to demonstrate his skill. The scene painter takes a back seat, which is as it should be, for the camera man becomes an artist instead of a crank-turner.

I spent a recent vacation on a farm, and, as is natural with rural folks, the farmer with whom I was staying wanted to know the ins and outs of my vocation. Having thus gained his confidence, he told me about a neighbor of his who had been paid a surprise visit by a motion-picture company. They wanted free access to the farm for one week, for which permission they would pay one hundred dollars. The extremely liberal offer was accepted without more ado, and the farmer made a tidy profit out of the players' board.

My newly found friend was anxious to

do the same. The pride of his estate is a good-sized waterfall, by the side of which is an old mill. He felt that this was worth something; so it was, but I took great pains to point out that no motion-picture company would run up for these alone unless hard pressed. These two attractions might prove the deciding factor, but he would have to assure them that his farm offered a wide range of locations.

I cite this case to prove to you how expensive is the search for locations, and the attitude taken by rural folks.

The big producing concerns can sustain it, but how about you, a free-lance? So many folks have gotten the mistaken idea that motion-picture producers spend their money like water, that you are liable to be branded as one of the tribe.

When you produce a film you take a big chance, and it is therefore up to you to reduce expenses as far as is possible. If you need locations on private property for an educational subject or a local photoplay, it is best to feel your way. Try, first of all, to obtain the necessary permission without a fee, but, if money is required, explain how differently situated you are from the national

producer, and offer a share of your profits.

What is the attitude of your park authorities in regard to the taking of exteriors? They may permit you to use a kodak as freely as you wish, yet impose certain restrictions when a motion-picture camera is used.

The Brooklyn park department, for instance, classifies motion pictures as a commercial product, and now charges tolls. If a film company or individual causes a troupe of not more than ten players to work in any of its parks, the fee is five dollars.

If, however, heavy "props" or artificial scenery is employed, or the company is more than ten and not over twenty-five, ten dollars is charged. Each horse is rated at one dollar.

It is not always realized by those responsible for the control of our parks that harm is done when they place obstacles in the way of cinematographers, whose efforts are often shown the country over, and the "atmosphere" injected acts as a boost for the place where the scenes were filmed.

An instance of this occurred in New Orleans not long ago. The Fox Film Corporation applied for permission to take

several scenes in City Park, but were refused by the City Park Board. The matter was taken up by the New Orleans Chamber of Commerce, who feared that their petty action would prevent New Orleans from becoming a film-producing center. The City Park Board, however, had the good sense to realize their mistake.

The weapons used in war films are harmless, so a mounted policeman made a fool of himself when he arrested a troupe of cowboys and soldiers engaged at fighting in Van Courtland Park, New York City. He took them to the Morrisania Court, where he charged them with carrying guns as opposed to the Sullivan law.

The magistrate discovered that the guns were not loaded, and dismissed the players when matters were explained. The company in question now obtains a permit from the police department when any of their players have occasion to carry firearms in public.

For these reasons I would advise you to make inquiries before exposing film in public parks.

LVIII

TAKING THE EXTERIORS

WE realize, when we come to outdoor work, that motion-picture producing is more closely linked with the photographic art than it is with the theatrical stage. The latter can not give genuine exteriors for love or money, but these constitute an asset in motion pictures which more than compensates for the absence of the spoken word.

Motion-picture producing companies think nothing of sending troupes of players hundreds of miles in search of "local color." It pays them in the long run, because, if they were obliged to fake natural backgrounds in the studio, the sets would probably cost as much as their traveling expenses. The scenic artist may be the most skilled man in his profession, yet he can not put one over nature and get away with it. The artificialness will be plainly apparent to the fans, who will regard the produced effort with disgust.

In an amateur photoplay, natural backgrounds are even more important. It is up to you to inject as much local "atmosphere" as possible, for otherwise their efforts will not appear half as effective. Folks like to recognize outdoor scenes, especially as they are presented from a new viewpoint—the motion-picture camera.

A photoplay in which exteriors predominate has, for some unexplainable reason, become associated with thrilling stunts. Must you, then, do the same in order to hold the interest of an audience? Once upon a time it was generally taken for granted that the attention of fans could only be sustained if something was doing all the time. The word action got to be misinterpreted, for the new school of directors has introduced a subtle kind of action—that in which a player expresses a good deal with a twitch of the face.

It takes years of experience to master this knack—for knack it is—so it is best that you adopt the broader means of expression. You should therefore attempt either a slapstick comedy or a refined melodrama. You can then have the villain ducked under the village pump, the hero tied to the rail-

road tracks at the local crossing, or stage the fight between the hero and villain at the edge of the nearest cliff. These stunts have been done innumerable times, and I have only suggested them so that you may know along which lines to work. While it is best to think up new incidents, even the commonplace ones would interest because you serve them up in a new "dress."

This is not to suggest, however, that you kill off any members of your filming party in actual reality, for if reasonable precautions are taken, the dangers incurred in putting over stunts are reduced to a minimum. The chances are that some of your players will be opposed to assisting in the manufacture of thrills, but the danger element, you must point out, is part and parcel of the photoplayer's work.

The following experience fell to Leah Baird's lot. I tell it in the Vitagraph player's own words: "In 'Ivanhoe' I was Rebecca, and King Baggot, as 'Brian de Bois,' had to carry me off. Well, the steed threw us both to the ground, but King Baggot quickly got up and pulled me aside before the horse had a chance to roll over me."

Accidents are liable to occur at any time, for the players have to carry out almost everything in grim reality.

The big mistake made by the average regular producer to-day is to repeat exteriors. If he chose to do so, he could introduce a wide variety of natural backgrounds, but he seems to prefer to confine himself to a few. This is sheer laziness in too many cases, for he saves time and trouble when he does not have to change over for every scene.

Your position, however, is quite different. Your footage will, for cost-of-production reasons, naturally be limited, and it is to your advantage to make every foot count. If you must repeat a scene, take a new angle of the setting, otherwise a "close-up."

Many excellent photoplays are spoiled through onlookers being permitted to butt into a scene. The producing of an exterior always attracts a crowd, and nothing detracts more from the dramatic value of a scene than persons who stare hard at the camera. This may be obviated if you take scenes early in the morning, when few folks are about, or by rigging up a dummy camera to deceive the curious ones.

Exterior work, of course, depends wholly on the vagaries of the weather. Clear work is essential, for bad photography shows up awfully bad on the screen and often hides important "business" put over by the players. Select, therefore, a clear day. If the sun is shining, the camera should be pointed north, so that there will be no shadows to place the players at a serious disadvantage.

Results also depend upon the right diaphragm being employed. The most effective way by which to test the weather conditions is with a Watkins actimometer.

The height of the lens is another important detail, and it is one which requires even more attention in exteriors, which are taken in all kinds of positions. If you run to extremes, your players will either appear like giants or else like pigmies. It is up to you to hit upon a happy medium. There is no standard technique, because every worker has his own ideas of what viewpoint is best, but most cinematographers prefer to focus over the actors' heads. You will learn your best viewpoint from experience.

It is highly probable that you will require to follow a vehicle in motion. This

is done by placing the camera on a stand in another vehicle which follows behind.

An artistic way of accentuating a portion of action without flashing to and fro is to "panoram" a scene. This is done by letting the tripod head slowly revolve in the desired direction.

Lastly, when you select locations, regard them from the angle of an artist, for they must be artistic in order to convince.

LIX

LIGHTING NIGHT EXTERIORS

THE cinematographer who is anxious to increase his versatility—and I have yet to know one who is not—will find night-work an excellent outlet.

Night-work in the studio is no different from that done by daylight, but exteriors may be given a new slant and some unusual subjects secured.

You need not confine yourself to one particular kind of picture—night outdoor cinematography is equally possible with the news film, educational or the regular photo-play.

I have seen views of native processions at midnight, campfire and battle scenes, New York's Broadway illuminated at night, the exterior of a house with the lights shining in the windows, and an automobile race in the dark.

I mention these instances to prove the scope which exists.

Now, the vital detail in night cinematography is getting the artificial lighting just right.

For scenes of short duration and taken but a few feet away from the camera, magnesium or aluminum flashes are generally satisfactory. These are made by mixing one part of magnesium or aluminum powder with four parts of well-dried and finely powdered sodium, same being placed in long cylindrical cardboard cases.

What has to be guarded against is the powerful light of the flares being exposed to the glass of the camera's lens. The fogged film which otherwise results may be obviated by reflectors.

If a flare is not long enough for a scene of a minute or so's duration, somebody must be ready with another light before the first one goes out, or the camera stopped while the change is made.

In developing the film, plain metol should be employed so as to eliminate harshness.

A more reliable device for all-round night-work is the Panchroma Portable Arc-lamp, which has been effectively employed as automobile and locomotive headlights,

street-lamps, burglar-lamps and searchlights on vessels. This is to name but a few of its accomplishments.

It contains two arcs which require fifteen amperes at 110 volts, giving forth eight thousand candle-power.

The lamp is decidedly distinctive in that the same solenoid feeds the two arcs, which waste comparatively little resistance current, as they operate in series, with fifty volts across the arc.

The lamp is exceedingly easy to carry, its weight not exceeding twenty pounds. D. C. or A. C. current may be used, and the lamp is easily connected where electric current is obtainable, as it is self-contained with collapsible reflector, necessary resistance wires, etc.

The light is of a soft, brilliant tone. This is because the small carbon is subjected to chemical treatment, with the result that the ultra-violet and a tiny portion of the spectrum are discarded.

The blue portion of the spectrum often prevents photographic daylight in that the blue is accentuated. This lamp produces a varied range of colors and shadows.

LX

LIGHTING INTERIORS

BADLY lighted interiors do an untold amount of harm to a motion picture, and must be guarded against.

In some of the efforts of the regular producers, who should know better, I have seen the interiors so dimly lighted that they reminded me of the utmost depths of gloom. On the other hand, at times the illumination has been so unskillfully arranged that the features of the players' faces were blotted out.

It is the easiest thing in the world to make a blunder in the lighting of interiors. I will take it for granted that you have not yet obtained a studio. Out in California, and even in the East during the summer months, it is possible to stage interiors in the open. This is usually done on a platform, without the aid of artificial light. The wind plays havoc with the window-curtains of such interiors.

There are, however, many days in the year when this inexpensive method is out of the question because of the weather, so you will need an indoor studio rather than remain idle.

The ideal location for a studio is one facing north and south, in an elevated position, so that other buildings will not shield the flood of daylight. It is preferable that the roof be about twenty feet above the stage. Glass should be used for the roof, and the glass should extend to within three feet of the ground on each side.

The regular motion-picture producers use three kinds of lamps for interiors; namely, the mercury vapor-lamp, the arc and the thousand-watt gas-filled incandescent. If these skilled workers have found them entirely practical, then you can not do better than do likewise.

There will be days when the light which filters through will require but little artificial aid, and in this connection the thousand-watt gas-filled incandescent is unequaled.

But on those days when the daylight is inferior, the other two lamps may be adopted. Of the two, I would advise the mercury-vapor lamp.

The arc sheds such brilliant rays that it seriously affects the eyes of the players, who strive hard not to show the fact in their work. Not infrequently a player has to take a day off, as the after-result is inflammation of the eyes.

To the layman the mercury-vapor lamp does not seem so powerful; it does not consume so much current and yet gives a nice, soft light for photographic purposes. The mercury-vapor lamp is in the form of a tube, from twenty-eight to seventy-five inches long, with a 500-6000 candle capacity. The advantage of these lamps is that they light a fairly large area.

The motion-picture producers, as a rule, arrange the tubes in unit banks, each one containing eight tubes.

The reflectors supplied in connection with the tubes are satisfactory for still photography work, but motion-picture exposures are so short that double the number of lamps is needed. It is therefore advisable to employ white enameled semi-cylindrical reflectors.

Next is the arrangement of the lamps. If you desire to take big scenes, you can not do better than adopt the fixed-light method.

The use of portable lights, however, allows you to concentrate all your lighting facilities on a single small scene.

You may use overhead trolley or mono rails for switching the lights in the desired position, or else have the lights fixed onto frames and moved on casters.

The best article to use when it is necessary to shut out overhead light is a heavy canvas screen, which you should fix by ropes above the players' heads. This should be attached in such a way that it is easy to cut off any angle of side lighting.

You can not light every scene in a like manner; you have to be governed by the principles of interior lighting; if, for instance, the time is twilight, you must suggest the shades of night. The same is true of the interiors of a workingman's home and a millionaire's mansion.

Much depends on the staging being in harmony, and things to be avoided are glossy white bric-a-brac and deep black picture-frame and furniture.

The most general principle of lighting is on a gradual scale. Make it more powerful on one side than on its neighbor, and

also make the light stronger at the front of the set than at the back.

You must also take care of the top lighting, and the attention to all these details insures the players being shown up in relief.

Do not neglect to provide adequate ventilation, for the powerful artificial light is apt to make the studio stuffy. In the summer months the heat is almost unbearable.

LXI

STAGING INTERIORS

STAGING the interior sets in a photoplay is not so easy as it looks. One is apt to credit the regular motion-picture producers, by their extensive experience, with being perfect in this important detail, yet the fact remains that they commit an awful blunder every now and then.

Who has not seen films in which the clock kept the same time, although several hours' lapse of time occurred? Maybe you have also spotted furniture of a wrong period in a historical production. A connected telephone in a vacated house is also a common error.

These are some of the things the average director has gotten into the habit of overlooking. It is not because he is afraid to stage them that he avoids interiors wherever possible. Expense is the deciding factor.

You, as an amateur, might deem an

interior necessary in many places which the director would cover up with an exterior or leader. Supposing, for instance, you have the extremely likely situation of a character going into a store to make a purchase. In all probability nothing takes place, of importance to the play, inside the store. Why, then, go to the expense and trouble of staging such a scene?

I will tell you what a regular director does when confronted by such a problem. He shows the actor entering the store, after which he introduces a scene from another portion of the play. He then switches back to the same exterior, which now shows the actor coming out of the store with his purchase.

There is also the well-worn situation of the hero proposing to the heroine. Is it necessary that this should be done in the parlor? If not, it may be filmed in the garden or a similar place, with equally good results.

And when a director does introduce an interior he generally contrives to make it work precious hard. He will have it appear near the beginning and continue at intervals during the play until the end.

I want also to impress upon you the fact that the fewer interiors in your local play, the better it will be. Since you will wish to know my reason, I may say that you naturally want to make your local photoplay decidedly distinctive in character. Your actors and story help to this end, but what audiences will look forward to most will be familiar local backgrounds. Those put on inside the studio can not be any different from those contained in a regular photoplay, so only make use of interiors when absolutely necessary and there is no other way of avoiding them.

Some directors are addicted to the bad practice of faking exteriors. Probably the director will be called upon to stage an outdoor, summer party scene in New York in December. It is, naturally, impossible to obtain the desired backgrounds when the country is snow and ice bound. A troupe of players could, of course, be sent to either Florida or California, but the expense would be prohibitive.

Natural backgrounds represent the greatest charm of the motion picture, and it is therefore all the more deplorable to see a director follow in the footsteps of the so-

called legitimate stage, which, by its limitations, is compelled to adopt such methods.

I say, and will repeat, that if you are unable to secure the exteriors you require, leave the play alone until you can. In the interim you are free to proceed with another.

I well remember reading the experiences of two young men who started a feature film company. The faults they made in the putting on of interiors were to stage a garden scene in a conservatory and permit the roof and sides to show in the picture.

Another interior revealed a stage-hand calmly walking in at the back of the scene, while a mirror in one of the scenes was placed in such an inappropriate position that it disclosed the camera man turning the crank.

It is absolutely essential that the canvas employed for the scenery has not been painted upon before, because there is the big chance that the portions which are invisible to the naked eye will come out on the film.

In painting a scene, you are no doubt under the impression that black and white are most adapted for photographic pur-

poses. They are not, however, but, instead, impart a funeral appearance to a scene.

The most effective colors to use are brown and white of the same hues. In no case should different tints be mixed, but an equal mixture be made of the same shades of these two colors.

The actors are now called upon to accentuate the coloring scheme by being dressed in clothes which afford a powerful contrast of light and dark. Dark brown or blue and yellow will photograph most satisfactorily.

It might be well for me to point out that in such a scene as the interior of a log cabin, where a player opens the door revealing a mountain or prairie back-drop, this should not be photographed too close to the camera, else its artificialness will be readily apparent. In the painting of a back-drop a lighter white and a darker brown should be used than in the near scenery. The latter must likewise be substantial, as it would not do to see an actor lean against a wall and its flimsiness be shown.

Such "props" as armor and silver plate may reflect in such a way as to distract attention from the players. To take the

brightness out of shiny articles, it is advisable to rub soap over them.

In regard to furniture, oak gives rather a doleful appearance to a room, while walnut produces a satisfactory effect under all conditions. Mahogany, however, comes out far too glossy. You should also place satinwood and marqueterie on the taboo list, as they both photograph the direct opposite.

Always make a point of having your principal actors near to the middle of a scene. Then, if you want to put across a bit of "business" which can not be shown in the full scene, it is easy to inject a close-up.

You should also see that no actor hides the action of another, nor allow their heads to be in a straight line.

You had best set the camera upon a tall tripod, as then there will be no danger of the players appearing shorter than they actually are. The best way to prevent them from getting out of focus is to draw a chalk-line all round the area covered by the camera.

LXII

TRICK EFFECTS

TRICK effects are so common in regular photoplays that you may desire to experiment on a small scale.

Suppose the character lies asleep in a chair; the soul removes itself from the body, walks about the room as though through air, and finally goes back to the body.

You would have to film this situation twice on the same strip of negative, making the two images superpose. First gradually close the lens to zero, but on the second exposure open up the diaphragm in a like way. Before re-exposing the wound-back film remove the gauge.

Another good effect is that in which the players fancy a ghost is in their midst. The actors must remain perfectly still, which is very hard if they have to put over any emotional work. Rehearse these scenes carefully and mark with chalk the exact path the ghost takes, for the "ghost" must

also know his bearings if his actions are to tally.

First film the actors and permit the ghost to do his stunts all alone. After completing the two negatives, place one at a time in a rotary printing-machine and turn the negative film towards the unexposed and sensitive side of a positive print. Pass the two films at the same time so that an impression is made. Repeat the process through the printing-machine with the second negative, after which develop the positive print in the ordinary manner.

Suppose you introduce a player in a dual *role* and desire him on the stage in both parts at the same time. The two characters can not come in actual contact, so the best a player can do is to "register" at the proper times.

Divide the scene into two component parts with the aid of a thread. Attach a piece of black cardboard to the front of the camera so that only half of the lens is exposed. Place the camera in the exact middle of the set, and when the action in one-half is completed, attend to the other half, but before "shooting" remove the hood to the other side of the lens.

You must take care of perspective, for if the hero and the villain are one and the same, it would be up to you to keep them both at the same distance from the camera. If, for instance, the hero was allowed to remain in the background, while the villain was near the camera, they would appear respectively as a pigmy and a giant.

Maybe you have wondered if there are any secrets about taking close-ups, especially those showing facial studies. As the lower part of the body is concealed from view, it is very simple to lay foot-guides on the studio floor. These should be six-inch strips of wood, from six to eight feet long, held upright by braces. Arrange them in V shape. This method insures perfect naturalness on the part of the players in taking their poses.

The keyhole, or magnifying, effect is technically termed a "mask." Attach a rectangular-shaped metal plate, the size of which should be one inch by three-quarters of an inch, to the lens of the camera. Inside the first mask fix another to correspond with the shape desired.

The dissolving in and out of scenes is far superior to the old, abrupt method, and

is especially effective in visualizing people's thoughts.

Attach a lever to the diaphragm and shut off at the conclusion of a scene. Wind the first exposed film back to the camera's upper box, and keep the diaphragm almost closed when commencing to expose the second scene. Gradually open the diaphragm.

Maybe you will want to show a vision in the corner of a scene. Proceed by placing a mask in the lens shade. The shape of the mask depends upon the portion of negative you wish unexposed, but you will have to take the vision scene with a mask which tallies with the previously exposed portion. To complete the effect, run the film back in the top box and expose same for the second time, when use a mask that corresponds with the previously unexposed portion.

LXIII

TACTICS ADOPTED IN FILMING NATURAL HISTORY SUBJECTS

UNLESS you possess unlimited patience, do not attempt natural history subjects, as you are at war with Nature, and you know what that means.

I honestly believe we can learn a whole lot from the experiences of others, hence my reason for mentioning the tactics adopted by other cinematographers.

Edward A. Salisbury, who has put America on the natural history map, secured some snappy views of the eagle by climbing up an exceedingly tall pine-tree, struggling gamely with his camera, which weighed eighty pounds. To guard against possible attacks on the part of the mother bird, he carried a nasty-looking stick. It proved, however, no easy task to fix the camera in the top boughs of this majestic forest specimen, so he tried one way and another until the machine would keep in position,

and then had the utmost difficulty in coaxing the young eagles to remain in their nests.

To obtain a film study of herons, he made screens out of vegetation growths picked from a tract haunted by the birds. These screens were so cleverly arranged to match the undergrowth that even Mr. Salisbury himself, on returning the next morning, wandered for over an hour before he could locate his hiding-place. He was soon rewarded, however, by two male birds appearing, and, while they indulged in a scrap a la Jack Johnson, he turned the crank of the camera. Imagine, if you can, his disappointment when, upon developing the negative, he found that a blade of grass had obstructed the view of the lens.

I happen to know of one cinematographer who attempted to film the kingfisher. He went about it by studying the haunts of the kingfisher for himself, after which he took up quarters in a stream at a place where it was four feet deep. Over his head and shoulders he placed a large mask formed of tree branches, and when a kingfisher ventured within view he moved cautiously so as to deceive the bird into

thinking that the boughs were being floated along by the current.

And where was his camera? That, let me tell you, was under his sheltering contrivance, fixed to an anchored floating base. His first filming effort was a failure, for the camera's clicking noise frightened the bird away.

But one futile attempt did not daunt this enterprising young man, for he next procured another camera and attached it to the same floating base. Day after day he waited for the regular appearance of his victim, and turned the handle of the second camera, which was minus any film. This went on for seven weeks, at the end of which time the kingfisher paid no attention to the working of the motion-picture machine. All he had to show for his untiring efforts was a strip of film, two hundred feet in length.

Some birds are cliff-dwellers, and this introduces an element of danger. The cinematographer usually works with a tripodless camera, and has himself lowered down a tall cliff on a rope. The extra-powerful lens comes in handy to approach the birds at a distance, unawares.

Equally tedious to film are those birds that favor the ground for building their nests, for, apart from requiring considerable skill to focus the apparatus in the right angle, it is hard to "snap" the feathered creatures off their guard.

Prof. Raymond L. Ditmars, Curator of Reptiles at the New York Zoological Park, produces natural history pictures as a hobby, and in putting on a recent subject, "The Moonlight Habits of the Lance-head Snake," he had a very narrow escape. Mercury-vapor lamps gave the desired lighting effect, and paper was rustled to make the reptile think there was an animal close at hand. Ditmars, who, in addition to working the paper stunt, began turning the crank, was congratulating himself on the excellent picture it was going to prove, for the snake first moved his head and wriggled his body to make the letter S several times. He then leaped right in front of the camera, but, fortunately, Mr. Ditmars had the presence of mind to step aside, the reptile landing within a foot of him.

The operator, when handling a cobra for the movies, usually keeps a safe distance

away and employs a motor-engine to work his camera. The wiseness of these precautions can not be disputed, for the camera is oftentimes disfigured with deadly venom. I therefore consider Mr. Ditmars rather reckless when he decided to obtain a picture of the deadly ringed cobra.

He and his wife, who assisted him, deemed it advisable to wear auto-goggles as a protection against the sprayed poison. The electric motor, attached to the camera, turned the crank, the snake being but four feet away. A long pole was employed to coax the cobra up close to the machine, but Mrs. Ditmars wanted the snake to display his spiteful nature, so she waved a handkerchief in his direction. Before you could say "Jack Robinson" its temper was up and the snake made one big leap for the lens of the camera. Finding its progress hindered, it calmed down for a moment, stepped back, and advanced toward Mrs. Ditmars, who thought her last moment had come. Luckily, however, she stepped on the housing of an electrical coil, the cobra gliding by under her feet.

But the filming of wild beasts in their native haunts is attended by all sorts of

dangers. Usually an artificial animal or tree-trunk is employed for the purposes of concealment. Such a structure is hollow inside and usually made of cork, with the painting of the animal or tree-trunk outside. The operator enters the structure from the rear, and, to provide for the long hours of waiting, the concealing structure has a special compartment containing refreshments and a stove. All the time he watches through the peep-holes, and as soon as his quarry comes within range, he sets to work. But for days previous to this the electric motor has been deputizing for the clock-work mechanism of the camera, in order to get the animals accustomed to the sound.

Wild animals possess such a keen sense of smell that they can detect a human being a long distance off, and, to disguise his presence, the operator covers himself with some vile-smelling liquid.

LXIV

TAKING MOTION PICTURES FROM AN AEROPLANE

HOW rare it is to come across a motion picture taken from an aeroplane! Those, however, showing a flying-machine in full flight are as plentiful as strawberries in June. There surely must be some reason for this apparent lack of enterprise. It is because such films are very difficult to produce.

Naturally, you could not operate a tripod motion-picture camera from an aeroplane, while traveling. The apparatus is far too clumsy. What is required, in my opinion, is a special hand camera, for it must be remembered that you are at loggerheads with the principles of cinematography.

The chief difficulty encountered when working in the air is that the aeroplane flies at too high an altitude for the earth below to be sufficiently distinguishable. You may use the longest focus lens possible, but it is

hard to regulate the speed. An aeroplane travels so swiftly that the resulting pictures are apt to be blurred, hence the many failures.

What is necessary is a shutter which will take pictures at many times the regulation sixteen-a-second speed.

Personally speaking, I am a booster for air cinematography because it is a phase of motion-picture work which has been little exploited. It permits of some wonderful panoramic effects, especially over towns.

The possibilities in this direction are unlimited, and I am confident that any experiments would be worth while.

It will be reassuring for you to know that there have been some successful aeroplane ventures with a motion-picture camera, and it is with the intention of helping you in your work that I shall proceed to relate the experiences of the principal exponents.

Several years ago John C. Hemmett, of African-hunt fame, put over a filming stunt from a hydro-aeroplane. He made a test over Marblehead Bay, Massachusetts, and attached a contrivance of his own invention to the propelling motor of the flying-

machine, this automatically turning the crank.

At first it seemed as though Mr. Hemmett and his camera were a too heavy burden for the aeroplane to carry, for they turned the scale at 265 pounds, while the machine weighed approximately 100 pounds, apart from the airman.

Mr. Hemmett set the crank in operation when they rose to a height of 150 feet. The first subject that came to his "net" was a bunch of wild ducks flying up from the water in a hysterical state. The aviator kept these in view while Mr. Hemmett exposed some "meaty" film.

The flight occupied eight minutes, during which time the cinematographer attained a height of three hundred feet and took several hundred feet of negative. His other subjects included excellent coast-line views, rigged schooners at anchor and half-submerged reefs. The speed at which these were taken was sixty miles per hour.

The most notable motion-picture feat of 1914 in Europe was the filming from an aeroplane of the arrival of the King and Queen of England in Calais Harbor.

Mr. R. A. Ferguson, the clever, ani-

mated newspaper man, attributed his success to the "Aeroscope" camera, which has simplified outdoor cinematography. His flight consumed an hour altogether. He soared to a great height during the first part of the trip, but eventually swooped down to within two hundred feet of the yacht. The hardest task of all was keeping the yacht in focus, for the aeroplane circled unsteadily.

Recently Giovanni Fabbri, attached to the Aviation Corps of the Italian army, invented an automatic tripodless camera. This enables panoramic views to be obtained when an aeroplane is in mid-air. In the camera are two bobbins, over which the roll of film winds and unwinds. One side of the film is perforated at places equally apart. The tooth in the camera, on coming in contact with a perforation, automatically brings the film to a standstill. This frees the shutter and results in an exposure. A tiny propeller, set in motion by the air, serves to unroll the film. The camera can be manipulated as high as four thousand feet.

The free-lance who can successfully surmount the problems which have arisen in connection with air cinematography will reap the rewards of his labors.

LXV

FILM STOCK TROUBLES IN THE TROPICS

ONCE you switch your operations from the temperate zone to the tropical, you will find yourself confronted with new problems, which result through the unhealthy climate, uncertain light values and the intense heat.

I know of a cinematographer who made a trip to the Canal Zone during the rainy season. When he removed the film stock from the cans, it was soft, and, within an hour of placing it in the box of the camera, it was as wet as wet could be, while the following morning it was completely covered with mildew.

How may this be avoided? One cinematographer, working in the heart of Africa, deemed it advisable to carry the film stock in a cooling-case, built along the lines of the vacuum flask, and prevented the exterior from becoming hot by covering same with cool banana leaves. Unfortu-

nately, however, this camera man would not reveal the details of his invention, so we must confine ourselves to the generally followed plan.

Before setting out on your journey, store the film in air-tight cans and place adhesive plaster all round the edges of the lids.

If you take my advice, you will not burden yourself with more film than you actually need, as it deteriorates rapidly. If you can arrange to have small consignments dispatched as required, so much the better.

Once you have arrived at your destination, select a dry and cool place for the film-boxes, which are kept in a better condition if placed in an ash-can or some other air-tight receptacle, not overlooking to include a dish of fused calcium chloride.

Reload the camera only just before you plan to "shoot."

You may experience considerable difficulty in turning the crank, for the heat is apt to heat the brass and make it too hot to be operated with the bare hands. A pair of gloves will therefore come in handy.

The developing is best done on the spot with as little delay as possible.

A camera man of my acquaintance told

me of his experiences while working in the Sudan. He discovered that sunrise was the ideal time for developing, since the air is not too warm, and the water, which has been standing in canvas buckets since the heat of the previous day, is nice and cool.

This operator utilized an oblong-built straw hut, 17 x 11 feet, for his dark room. The inner covering, to keep out the light, was a red and black Turkey cloth, slightly smaller in size. No ventilation was provided, although there were openings both at the top and the end. These were to accommodate the wooden frames, over which were placed ruby glass, ground glass and thin wire netting.

He made his own developing-frame out of native timber, shaped like a 3 feet 6 inches drum, and painted it with a paraffin wax.

My friend also needed two troughs, one for the developer and the other for hypo, and made these of wood, joining the sections together with pitch. He allowed for a space of an inch to occur between the film and the trough interior when at work. Each trough had two wings, so that the developer and hypo would be caught on

falling from the film, thence conveyed back into the trough's well.

To hold the axle carrying the drum, he equipped both of the troughs with slotted side arms.

The developing materials used were B. & W. "Tabloid" pyro-soda and a little bromide of potassium. He used eight cartons to develop two hundred feet of film, and placed the solution in a bucket half filled with water.

LXVI

DEVELOPING THE NEGATIVE

SOME cinematographers, like the amateur photographer who has his films developed at the corner drugstore, may prefer to entrust the developing of their negatives to hands more skilled than theirs. Others, however, will prefer to master the difficult art of developing. It is to advise the latter that this article has been written.

The first essential is a suitable dark room. This must be well ventilated and kept spotlessly clean. There should also be plenty of room to move about in, while the temperature is another important point, best results being obtained when the heat is between 65 and 75 Fahr.

The illumination may be candle, gas or electricity, and you have equal choice between a red, green or yellow light. Some workers are naturally careless; not necessarily because they are inefficient, but because familiarity breeds contempt. Blacken

the walls as a precaution against leaving doors ajar and other sources through which daylight may filter.

The selection of suitable apparatus is the next important detail. This should consist of the following articles: one developing-rack, three developing trays or tanks, one drying-drum.

The developing-rack is used to wind the exposed negative and is not hard to construct. To hold about one hundred feet of film you will need a frame thirty-three inches square. This should be of teak and the sides of thicker wood than the ends. Round the ends of the end bars.

You do not want the strips of film to become tangled, so separate each by driving headless brass nails at distances of one and one-half inches apart, and projecting about one-fourth inch on both of the side bars.

Wind the film by attaching the end with a drawing-pin to the top bar. Manipulate it away from you, taking care to keep each strip of film in its proper section. As wet film expands, wind it tightly.

You will need a support for the rack, and the best is a strong wooden frame.

I now come to the developing-trays,

preferably flat and of stoneware. They should have a depth of at least two inches, and if it is about fifteen inches square, it will hold the developing-frame, with one hundred feet of film, nicely.

Should you decide to make a wooden frame, it must be both water and chemical proof. Some cinematographers use oil-cloth, but I do not think you can excel sheet zinc or lead for lining the trays.

Use one of the trays each for developing, washing and fixing the negative.

The next essential is a drying-drum. Bearing that one hundred feet of film in mind, this should be one foot three inches in diameter. Procure two wooden discs; nail a bunch of thin wooden strips, say, one and one-half inches apart. In the center of each disc bore a hole so as to accommodate the axle. Make two wooden supports, one at each end, on which the axle rests.

While there are several brands of film stock on the market, the most widely used kind is Eastman. Each manufacturer has his own formula, so I can not do better than confine myself to the one recommended by the Eastman Company. Here it is:

Water (8 1-3 imperial gallons), 10 U.

S. gals.; metol, 180 grains; sodium sulphite (des), 31 lbs. 5 ozs.; hydrochinon, 8 oz.; sodium carbonate (des.) 1 lb. 9 oz.; potassium bromide, 1 oz. 63 grs.; citric acid, 400 grs.; potassium metabisulphite, 2 oz.

Make this solution up just prior to developing. It will generally keep for two weeks, during which time you may use it for other negatives.

Let us now pretend we have produced a one-hundred-feet subject, and, as we know that negatives do not improve in their unexposed state, we immediately proceed to develop.

The first thing we do is to weigh and mix the chemicals, which is no easy job if you have not had previous experience. Do not guess the weighing, for the slightest deviation in the standard formula will upset the whole bag of tricks. See that your pair of scales is true—free from dust and other harmful ingredients.

There is a knack in mixing the chemicals. First mix all the chemicals, with the exception of sodium carbonate and potassium bromide, in a vessel filled with warm water, which is improved with the addition of a drachm of preservative. Next dissolve the

two remaining chemicals in another vessel, the contents of which pour into the developing-tray and fill up with water.

After this empty the first vessel into the developing-tray and mix well. Enameled buckets are ideal vessels for the purpose. If you follow this procedure, you will save much time and trouble. However, if you are a beginner and would prefer not to experiment until you get your bearings, purchase developing powders from your nearest photographic dealer. The correct proportion for the developing-tray we have in mind is five powders, which will cost you about twenty cents.

Wind the film on the developing-frame and place same carefully in the developing-tray. Remove any bubbles that appear, with a soft camel's-hair brush. Keep the temperature of the developing solution between 65 and 70 degrees, and move the frame about every two minutes so that the solution produces even development. If you have developed a photographic plate, you will readily detect when it is sufficiently developed.

This over, place the frame in the rinsing-tray, which should contain plain water.

It is now ready for the fixing bath. Here, again, are pitfalls for the careless. Dissolve in each pint of warm water not less than four and not more than eight ounces of clean hypocrystals. Before doing this place the hypo in a sheet of linen and tie up in a bag, which place below the surface of the fixing-tray. In this way the heavy liquid falls to the bottom of its own accord, while grit and splinters remain in the bag and you avoid spoiling the emulsion of the undeveloped negative. Now place the frame and allow it to remain until the film is transparent.

Next attach a rubber tube to the faucet and wash the film for about an hour.

The only thing necessary now is to dry the film. Most studios have special drying-rooms in which the films are wound on huge drums and dried by electrically heated air. A one-horse-power motor serves to drive the drums.

I know of one studio which has cut down the time necessary to one-quarter by operating a 3,000-watt air heater behind each drum. In the ordinary way it takes from seven to ten hours to dry a reel.

But your methods will necessarily not be

so far advanced. To transfer the negative, attach the end of the film on the drum, turning same slowly while unwinding the film from the developing-frame. An electric fan will quicken the drying, but a warm room is the next best.

LXVII

HOW TO TAKE FILM TITLES

SOME films require little assistance from the "doctor," but every picture needs at least one title. There are, of course, different kinds of explanatory matter.

The main title is self-explanatory, but the most widely employed device is the sub-title. It is so called because it acts as a guide over stumbling-blocks; that is, when something can not be explained in pictures. It is used in all types of films.

But the screen message is practically confined to the regular photoplay, where it may be in the form of a letter, newspaper clipping or telegram.

The methods in vogue at the various studios differ, but in all cases the titling details are attended to after the play has been completed.

Undoubtedly the most simple and inexpensive way is to cut out the letters carefully on white cardboard. If, however, you

do not wish to go to this trouble, engage a sign-painter to draw them on a sheet of white cardboard.

If you adopt the former method, place the letters on a flat surface against a black background, allowing an equal space between each word. To photograph same correctly, place the camera box on a stand directly above and arrange the lens so that it faces downward towards the middle of the title.

Use positive stock in the camera, and be sure to turn the emulsion side away from the lens, as, if this is not done, your title will be filmed backwards.

Why I advise the use of positive stock is because you obtain greater contrasty results, but you can not be too certain of the correct exposure, which you should test with a film meter.

In developing, take good care that the letter is transparent and on an opaque ground. The following formula has been tested and proven:

Glycin, 1¼ lbs.; sodium sulphite, 3¼ lbs.; potassium carbonate, 6 lbs.; water, to 60 pints.

After you have developed the negative, print a positive from the same and use it as

the title negative. Attach this to the complete negative in the correct place and join with acetone cement.

Allow one foot of film for each word, so that it is easy to calculate the footage necessary for a title.

Although a well-lighted room is suitable for taking titles, you will obtain more satisfactory results if you can supply artificial light, one lamp at each side of the camera.

LXVIII

PRINTING POSITIVE COPIES

TO one not conversant with cinematography, the next stage after developing the negative would appear to be printing the positive, but there is another process in between—editing. This work consists of inserting such titles as are necessary to make the film clear, and using the pruning-knife freely in spots where the film lacks interest. If you do this, you will only waste negative stock, but if you leave this important detail until after the positives are printed, you will have waste of raw stock on every print to account for.

The printing-machines used by the regular producers are too costly for the average amateur, who may make a passable printer out of his camera.

The lighting is an important factor, and electricity is undoubtedly far superior to anything else. Failing this, however, either gas or acetylene may be substituted.

You have to fix up the camera, and you start by taking away the lens. Open the shutter wide and equip the top with an arm, to which attach a spindle, to hold the negative film-spool. Now place the camera on a table or bench against a wooden partition, cutting a little opening so that the electric bulb or gas-burner, which you install near same, reflects a light.

Blacken a cardboard tube; place one end in the camera opening and the other in the partition entrance. This will carry the light into the camera.

Fill the upper film-box with the unexposed positive stock and insert same into the camera. Thread the negative via the upper slot, after which thread the positive below the guide roller, then below the upper sprockets to the gate, where it meets the negative, finally leaving the lower slot. It is highly important that both gelatine surfaces touch each other.

Shut the camera and turn the handle, the speed of which depends on how the negative has been developed. If overexposed, take your time over it.

Develop the positive in the same manner as you would the negative.

In order to bring out certain effects, black and white may fall flat, so you resort to tinting.

If you have some fire scenes, the following formula will answer your purpose:

Distilled water, 80 gallons; film red R No. 1, 1 pound; citric acid, 13 ounces.

Orange helps to make rooms illuminated by artificial light impressive, the formula for which I give below:

Distilled water, 80 gallons; film orange G No. 6, 15 ounces; citric acid, 7½ ounces.

Yellow, on the other hand, is excellent for suggesting midday sunshine in exteriors. Here goes:

Distilled water, 80 gallons; film yellow T No. 5, 1 pound; citric acid, 7½ ounces.

Night scenes look perfectly natural when tinted a dark blue. This is the formula:

Distilled water, 80 gallons; film blue G No. 4, 10 ounces; citric acid, 10 ounces.

You will now require one bath for each solution, and the work has to be done with great care, for the particular scene may be in the middle of a reel. You will, of course, already have it wound on a wooden frame, so, to prevent it from getting tangled, rewind same on another frame until you reach

the particular place. Dip the strip in the bath and leave it there for about five minutes, after which rinse same for about a minute in order to free it of excess dye.

LXIX

HOME MOTION-PICTURE ENTERTAINMENTS AS A SOURCE OF PLEASURE AND PROFIT

FILMS cost more to put on than ordinary photographs. On the other hand, there are sixteen pictures to each foot of film, so when you produce a full-reel subject you have no fewer than sixteen thousand separate photographs.

There are several ways and means of extracting both pleasure and profit from the hobby or business, according to which angle you regard it from, such as by getting the local photoplay theaters to remunerate you for the privilege of exhibiting your efforts, if the negative is sufficiently widespread in appeal and interest.

But now the motion picture has entered the home, and an excellent opportunity presents itself to specialize in home entertainments. I will now proceed to lay out some methods for your guidance.

After you have devoted much time to motion-picture photography, you will, naturally, have gotten together a collection of films. These will probably embrace several classes of educationals, local topicals and short local comedies and dramas.

You will, first of all, need a projection machine, if you do not happen to already possess one, and there are two kinds of these on the market. The miniature projector has a shorter throw, but points in its favor are that it is easier to manipulate and does not consume so much current. It also costs about one hundred dollars, while the standard machine is three times as expensive.

It is, of course, a matter for you personally to decide, though if you intend confining yourself to exhibitions in ordinary homes, the miniature machine will suit just as well. In the case of large halls, and so forth, however, the large machine stands supreme.

The authorities will not permit you to show films unless you project same under a "safety first" roof. In the catalogues of the theater equipment concerns you will find a film booth listed at fifty dollars. It is four feet wide, five feet long and seven feet

high. This metal enclosure is just the very thing for your purpose, for it is portable, and only twenty minutes is occupied in erecting it or pulling it down after a show.

We now approach the problem of a satisfactory screen. The size of this will depend upon the room itself, so it is advisable to purchase two different sizes. One about three feet long by three feet wide might about fit in, and another several times the size for where big rooms are available. The material, I understand, costs anything from ninety cents to $3.75 per square yard.

It is also possible to hold exhibitions at garden parties and the like, for there is a screen which gives as good results by day as by night.

When you have everything in readiness for your operations, the time is ripe to write all your friends and acquaintances, soliciting their support. Motion-picture home entertainments are quite a new thing, and offer a refreshing change from the usual run of social functions.

Your own film library will fit in like a glove, and you will not feel guilty of competing with the regular photoplay theaters in your neighborhood. In this way you will

be able to retain the friendliness of the exhibitors and continue to supply their own special needs.

You have, of course, the option of fixing your own territory, but I would recommend your not going beyond a radius of several miles. This will secure for your films a warmer reception, because the spectators will evince special interest in knowing that they are strictly local efforts.

If you desire further clients, an advertisement in the local newspaper, setting forth the charms of a private motion-picture entertainment for social gatherings, at clubs, societies and lodges, will no doubt produce the desired results.

The usual fee charged is ten dollars for an hour's entertainment, comprising about three reels, and five dollars for each additional hour. It is advisable to vary the films as much as possible, for it is variety on which the film industry has been built up. You can, for example, have a one-reel educational and a drama and comedy, each of the same length.

There are brilliant possibilities in this field for the cinematographer who is enterprising enough to grasp them.

LXX

THE VALUE OF PUBLICITY

I CAN not place too much emphasis upon the value of publicity in connection with your motion-picture-producing activities. All the photoplay manufacturers employ men to dispense information in regard to their plays and players.

The fans are so mighty inquisitive that their interest really only begins with the seeing of a photoplay. They want to know how it was produced, and so on. A dozen publications thrive on catering to their whims, and the exhibitor, too, wants all the available information, as it assists him greatly in advertising a film which he has booked.

This reminds me of the case of a free-lance cinematographer who has attained no little success in marketing educationals. Instead of disposing of the negative, he merely sells the number of prints required.

The manufacturer finds still photographs

of great help in advertising a production, but this particular free-lance does not take any at the time of producing, nor does he permit any to be reproduced from the negative. The positive gives such indistinct stills that they are not worth the trouble taken.

Several times the publicity director has endeavored to obtain a story of his methods, and has at last succeeded. The cinematographer is perfectly right in keeping some of the secrets to himself, but there is much scope for legitimate material.

Publicity in the way of photographs and write-ups causes the public and exhibitors to be interested in your work, resulting in an increased demand for same. It therefore does not pay to neglect this phase of your activities.

LXXI

IMPROVING FILM PRESENTATION BY COLOR LIGHTING

IN color-lighting effects the speaking stage easily excels. The theatrical boards revel in a wealth of colors, which is not the least agreeable feature to audiences. How enjoyable it is to see the rapid changing of colors to tally with the atmosphere of the scene.

But on the photoplay screen there is none of this lifelike coloring, and, instead, a deadly, monotonous black and white meets our gaze throughout the entire performance. True enough, we do witness attempts such as red to suggest fire, and a dark blue to pass muster for night, but these are so crude and ineffective that the films thus treated would be all the better if left in their glory of black and white. The portions are faked by toning them with liquid chemicals. According to F. M. Wiltermood, a motion-picture expert, this is greatly harmful to the high lights in the scenes, destroys much of

the beauty of the faces of the women players, shrinks the sensitive films, produces static (the bane of all cinematographers), and otherwise damages the delicate images in the film.

Every now and then we come across examples of color cinematography, but the efforts are so amateurish and impracticable that it is better to see a dozen black and white pictures than one of the colored variety. These are usually produced in the ordinary way and colored by a stencil method. As the films are magnified thousands of times, it is not unusual to discover the colors running into each other. Besides, if colored motion pictures are perfected, the black and white subjects will continue their vogue, for they are the most natural, despite their lack of color, which can be added afterward by the exhibitor, not the producer.

In other directions some exhibitors are striving to present their pictures realistically by employing mechanical effects to accentuate things like a character knocking at a door or the throb of the auto engine. I also happen to personally know of a motion-picture showman who, when presenting a film of Turkish life, made the audience appre-

ciate the picture tenfold by the simple dodge of spraying the hall with an Oriental perfume. Why not, then, give attention to the most neglected detail of all—color lighting?

Mr. Wiltermood some time ago held tests at a Los Angeles theater to demonstrate the possibilities of his invention. His arc-light, with a forty-five-amperage power, was fixed to the projecting machine. It was got over convincingly that many hues could be produced at the same time, thus allowing a scene to be appropriately tinted. Sunset on the sea was a perfect gem, for the red hues among the clouds cast a crimson glow over the waters, while the spot-light was shifted about in order to show the shifting clouds moving past the sun. Then the time was gradually changed to night, and pale blue made a lovely moonlight effect. This device should enable many subtitles such as "That night"—to indicate lapse of time—to be dispensed with.

The experiment also proved that, by switching a pink color on the players, it gave them an air of naturalness. Their ghostly white faces, make-up lines and shadows were abolished. Interiors of offices were improved by pale amber to suggest the glow

from electric light. Woodland scenes were also revealed in their natural beauty.

It also appeared that many unique effects were possible. These the director will hail with delight, for he can tackle things that were beyond his power. For example, fog on the sea was produced by placing a bluish, clouded glass in front of the projector, showing the ships moving about in a mist.

It is only since the advent of the transportable lamp that the director has been able to take outdoor scenes on a dark night, and do his interiors in places such as subways, stores and office buildings where there is not sufficient daylight to photograph them. These accomplishments, aided by color lighting, should give a perfect illusion.

The progressive motion-picture exhibitor will not be content with a white picture piercing the dark hall, so, once the device is placed on the market at a moderate figure, he will introduce same in his theater.

The light under notice does not reveal how the effects are obtained, for the colors find their way to the screen by means of the streak of light thrown out by the projector.

"I got more knowledge out of these tests than I had before," said Mr. Wiltermood,

"and I am sure that eventually my method will revolutionize the projection of films. So far as I know, I am the only cinema expert who has ever experimented scientifically with big arc-lights in the throwing of color hues on moving pictures. I made the auditorium look like a vast rainbow of color, and some of the movie scenes appeared to have a fairyland aspect."

LXXII

ARE WE TO HAVE STEREOSCOPIC MOTION PICTURES?

IT is easy to find fault with a thing, but to set it right is quite another matter. Every new industry has to survive an evolution period. Although the motion picture has progressed more quickly than the average new creation of man, it is still full of faults. Most of these are minor in character, but the biggest proposition facing motion-picture workers to-day is stereoscopic cinematography.

Some aver that there is no art in motion pictures, and, while not entering into a controversy on the subject, I affirm that were photoplays to be shown in bold relief, all doubt would be destroyed.

Aside from this, it would automatically bring about several improvements which we fans would heartily welcome. Who has not strained his neck in having to sit in one of the front rows through seats being at a

premium? And why is it you can not view a motion-picture performance for more than two hours at one sitting without experiencing a severe attack of eye-strain, the cause of which is the inevitable flicker which occurs even in the best regulated theaters?

You may, on the other hand, have sat so far away from the screen that the players resembled midgets. All this, by the way, stereoscopic cinematography would rectify. Is it not, therefore, a goal well worth striving for?

What, then, have inventors to do in order to reach it? First of all, it would have to answer all practical requirements. No photoplay exhibitor, for instance, would adopt a stereoscopic method unless it did not necessitate a special projection machine, or that material alterations would not have to be made to adapt the projector at present used by him. He would also insist upon using ordinary films.

With these preliminaries over, we are in a better position to criticize the three-dimension cinematography invented by Edwin B. Porter and W. E. Waddell. A demonstration of their method was given

at the Astor Theater, in New York City, recently.

Every one of the invited spectators was required to use the pair of red and green glasses provided. With the aid of these, as all the lights went out, the viewer was treated to a motion-picture feast, the like of which no fan had ever gazed upon before.

Natural backgrounds, and particularly those of rural surroundings, revealed the process at its best, the stereoscopic effect being most pronounced.

When, however, interior work came in for treatment, results fell short of the first samples. Especially was this true of scenes containing rapid-fire action. These failed to register at all, but the sets were invested with a greater depth and the images seemed more lifelike, the shadow illusion being partly obviated.

The audience couldn't resist the temptation to see what difference the glasses made, so they discarded them, but not for long. Everything on the screen was so distorted that they had the utmost difficulty in seeing anything resembling a film.

What produces this peculiar effect?

Well, let me tell you that the inventors are a little chary of giving away their secret. They were, however, good enough to divulge the following facts.

The camera is equipped with two lenses, each of which operates together. The first used are first produced in black and white, after which they are toned green and red. As the two lenses are separated by the distance of the average eye, it is essential to use the glasses in such a way that the picture on the right is seen by the right eye and the left side by the left eye. The two colors are merged into one of a different but pleasing tint when seen through the glasses.

The process is practical, with the single exception of the glasses. A spectator would soon get tired of holding them up to his eyes—he wants no artificial aids.

Then, again, what exhibitor would incur the expense of providing us fans with a pair of glasses apiece? Transparent paper of the right colors would serve the purpose, but even then the cost is not a small item. It would probably mean that no spectators would be admitted unless they purchased a pair of glasses. We might care to do this as a novelty, but not for all time.

It now remains to allow the naked eye to do the work. Then the invention, with the slow-action defect set right, should stand a fair chance of revolutionizing the motion-picture industry.

LXXIII

SHOWING OLD FILMS TO CHILDREN

THE motion-picture exhibitor is evidently under the impression that the child problem is solved by setting aside special matinees, but these, while a step in the right direction, are far from satisfactory.

On the seven evenings weekly that the exhibitor solicits the patronage of adults, he generally presents the best of the latest productions. At the special children's performance, however, he seems to take a pride in showing motion pictures anywhere from a year old and up. This "junk," as it is termed in trade circles, is what is standing in the way of an adequate supply of new juvenile subjects. The exhibitor rents these films at the rate of one dollar per reel for one day from the exchange. Each reel the exchange has purchased from the producer for $100, so, in order to recover the initial outlay, two years must elapse before the exhibitor can obtain same at his price.

The exhibitor avers that the children's performance is not a paying proposition, but he is not going the right way to make it so when he puts on a cheap program.

He also considers that anything will do for the kiddies. There is a marked difference in the photoplays released several years ago and the present-day output. Now, wholesome stories, good acting, careful staging and attention to detail are the order of the day, and to feed children on an antiquated motion-picture diet is a penny-wise and pound-foolish policy.

Then, there are the educational subjects to be considered. Some of these are of timely interest when first shown, yet, by the time they are exhibited at the average children's performance, their instructive qualities are practically nil.

A child who has been taken to an ordinary performance will find many desirable qualities lacking in the children's performance, which will, in all probability, become a bore. He may then attend the photoplay theater without the parents' consent when undesirable (to him) pictures are on the program.

I realize that there is the exhibitor's case

to be heard, but were he to charge, say, five cents additional, I feel sure that parents would not resent such an increase if it meant the newest juvenile productions being shown.

It is useless to appeal to the producer, who is a business man and must be guided by the needs of the exhibitor—the retailer. The exhibitor must, therefore, be approached before any response can be made to the increased production of these pictures.

The problem, in my opinion, will only be solved when companies that specialize in the production of child photoplays are formed, and a chain of theaters opened all over the country catering to young folk only. But until this time comes it is up to the mothers to leave no stone unturned to persuade exhibitors to forsake their present cheap policy.

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